

# Panasonic®

## Operating Instructions

### Memory Card Portable Recorder/Player

# P2HD

Model No. **AJ-HPM100P**

Model No. **AJ-HPM100E**



**DEUTSCH** Für Erläuterungen in Deutsch, konsultieren Sie bitte die mitgelieferte CD-ROM.

**FRANÇAIS** Pour des explications en français, veuillez vous reporter au CD-ROM fourni.

**ITALIANO** Per le istruzioni in italiano, vedere il CD-ROM in dotazione.

**ESPAÑOL** Para la explicación en español, consulte el CD-ROM suministrado.





**AVC INTRA** **DVC PRO HD** **DVC PRO 50** **DVC PRO** **DN**


Before operating this product, please read the instructions carefully and save this manual for future use.


• AVC-Intra capability is available when the optional AVC-Intra Codec board AJ-YBX200G is installed to the unit.

# Read this first!

## For AJ-HPM100P

	<b>CAUTION</b> <b>RISK OF ELECTRIC SHOCK</b> <b>DO NOT OPEN</b>	
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		

 The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

 The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**CAUTION:**  
THE AC RECEPTACLE (MAINS SOCKET OUTLET) SHALL BE INSTALLED NEAR THE EQUIPMENT AND SHALL BE EASILY ACCESSIBLE.  
TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER CORD PLUG FROM THE AC RECEPTACLE.

**WARNING:**

- TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.
- TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, KEEP THIS EQUIPMENT AWAY FROM ALL LIQUIDS. USE AND STORE ONLY IN LOCATIONS WHICH ARE NOT EXPOSED TO THE RISK OF DRIPPING OR SPLASHING LIQUIDS, AND DO NOT PLACE ANY LIQUID CONTAINERS ON TOP OF THE EQUIPMENT.

**CAUTION:**  
In order to maintain adequate ventilation, do not install or place this unit in a bookcase, built-in cabinet or any other confined space. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.

**■ THIS EQUIPMENT MUST BE GROUNDED**  
To ensure safe operation, the three-pin plug must be inserted only into a standard three-pin power outlet which is effectively grounded through normal household wiring. Extension cords used with the equipment must have three cores and be correctly wired to provide connection to the ground. Wrongly wired extension cords are a major cause of fatalities.  
The fact that the equipment operates satisfactorily does not imply that the power outlet is grounded or that the installation is completely safe. For your safety, if you are in any doubt about the effective grounding of the power outlet, please consult a qualified electrician.


**CAUTION:**  
TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

**CAUTION:**  
TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, REFER MOUNTING OF THE OPTIONAL INTERFACE BOARDS TO QUALIFIED SERVICE PERSONNEL.

The rating plate is on the underside of this equipment.

**CAUTION:**  
This apparatus can be operated at a voltage in the range of 100 – 240 V AC. Voltages other than 120 V are not intended for U.S.A. and Canada.

**CAUTION:**  
Operation at a voltage other than 120 V AC may require the use of a different AC plug. Please contact either a local or foreign Panasonic authorized service center for assistance in selecting an alternate AC plug.

 indicates safety information.

# Read this first!

For AJ-HPM100P

## IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



### Notice (U.S.A. only):

**This product has a fluorescent lamp that contains mercury. Disposal may be regulated in your community due to environmental considerations. For disposal or recycling information, please contact your local authorities, or the Electronic Industries Alliance: <http://www.eiae.org>.**

### IMPORTANT

**Unauthorized recording of copyrighted television programmes, video tapes and other materials may infringe the rights of copyright holders and contravene copyright laws.**

### <For USA-California Only>

**This product contains a CR Coin Cell Lithium Battery which contains Perchlorate Material - special handling may apply.  
See [www.dtsc.ca.gov/hazardouswaste.perchlorate](http://www.dtsc.ca.gov/hazardouswaste.perchlorate).**

# Read this first!

## For AJ-HPM100P FCC NOTICE (U.S.A.)

### Declaration of Conformity

Model Number: AJ-HPM100P  
Trade Name: PANASONIC  
Responsible Party: Panasonic Corporation of North America  
One Panasonic Way, Secaucus, NJ07094  
Support contact: Panasonic Broadcast & Television Systems Company  
1-800-524-1448

This device complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

To assure continued compliance, follow the attached installation instructions and do not make any unauthorized modifications.

### Note:

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The user may find the booklet "Something About Interference" available from FCC local regional offices helpful.

### Warning:

To assure continued FCC emission limit compliance, the user must use only shielded interface cables when connecting to host computer or peripheral devices. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate this device.



# Read this first!

For AJ-HPM100E

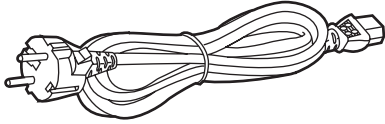
## Caution for AC Mains Lead

### FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

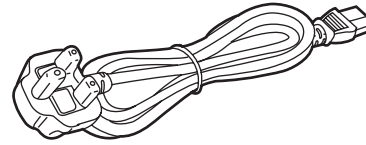
This product is equipped with 2 types of AC mains cable. One is for continental Europe, etc. and the other one is only for U.K. Appropriate mains cable must be used in each local area, since the other type of mains cable is not suitable.

#### FOR CONTINENTAL EUROPE, ETC.

Not to be used in the U.K.



#### FOR U.K. ONLY





#### FOR U.K. ONLY

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 13 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

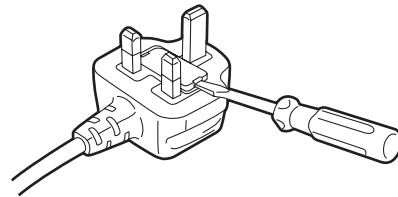
If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

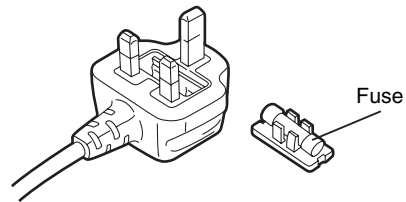
A replacement fuse cover can be purchased from your local Panasonic Dealer.

#### How to replace the fuse

1. Open the fuse compartment with a screwdriver.



2. Replace the fuse.



# Read this first!

## For AJ-HPM100E

### ■ THIS EQUIPMENT MUST BE EARTHED

To ensure safe operation, the three-pin plug must be inserted only into a standard three-pin power point which is effectively earthed through normal household wiring.

Extension cords used with the equipment must have three cores and be correctly wired to provide connection to the earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed or that the installation is completely safe. For your safety, if you are in any doubt about the effective earthing of the power point, please consult a qualified electrician.

### ■ DO NOT REMOVE PANEL COVERS BY UNSCREWING THEM.

To reduce the risk of electric shock, do not remove the covers. No user serviceable parts inside.

Refer servicing to qualified service personnel.

### WARNING:

- TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.
- TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, KEEP THIS EQUIPMENT AWAY FROM ALL LIQUIDS. USE AND STORE ONLY IN LOCATIONS WHICH ARE NOT EXPOSED TO THE RISK OF DRIPPING OR SPLASHING LIQUIDS, AND DO NOT PLACE ANY LIQUID CONTAINERS ON TOP OF THE EQUIPMENT.

The rating plate is on the underside of this equipment.

### CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

### CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, REFER MOUNTING OF THE OPTIONAL INTERFACE BOARDS TO AUTHORIZED SERVICE PERSONNEL.

### CAUTION:

In order to maintain adequate ventilation, do not install or place this unit in a bookcase, built-in cabinet or any other confined space. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.

### CAUTION:

THE AC RECEPTACLE (MAINS SOCKET OUTLET) SHALL BE INSTALLED NEAR THE EQUIPMENT AND SHALL BE EASILY ACCESSIBLE.  
TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER CORD PLUG FROM THE AC RECEPTACLE.

### IMPORTANT

Unauthorized recording of copyrighted television programmes, video tapes and other materials may infringe the rights of copyright holders and contravene copyright laws.

### Operating precaution

Operation near any appliance which generates strong magnetic fields may give rise to noise in the video and audio signals. If this should be the case, deal with the situation by, for instance, moving the source of the magnetic fields away from the unit before operation.

### Attention

Batteries are used for the main power source, memory back-up in the product and remote controller.

At the end of their useful life, you should not throw them away.

Instead, hand them in as small chemical waste.




### Attentie

Voor de primaire voeding en het reservegeheugen van het apparaat, alsmede voor de afstandsbediening, wordt gebruik gemaakt van een batterij.

Wanneer de batterij uitgeput is, mag u deze niet gewoon weggooien, maar dient u ze als klein chemisch afval weg te doen.



 indicates safety information.

# Contents

	<b>Included Accessories</b> .....	<b>11</b>
	Optional Accessories .....	12
	<b>Opening and Closing the Top Panel</b> .....	<b>13</b>
<hr/>		
<b>Introduction</b>	<b>Features</b> .....	<b>14</b>
	<b>Control Reference Guide</b> .....	<b>17</b>
	Audio and Video Controller .....	17
	GUI Operations .....	20
	Panel Control Unit and Card Slots .....	23
	LCD Panel .....	24
	Rear Panel .....	25
	Side Panel .....	28
	<b>Moving Between Screens and Menu Operations</b> .....	<b>29</b>
	Operating Modes .....	29
	Menu Operations .....	30
	<b>Using the On-screen Keyboard</b> .....	<b>31</b>
	Using the Full Keyboard .....	31
	Using the Ten Keypad .....	31
	<b>Recording, Playback and P2 Card Handling</b> .....	<b>32</b>
	Insert a P2 Card .....	32
	Recording and Playback .....	32
	Removing P2 Cards .....	33
	Preventing Accidental Deletion .....	33
	<b>Jog and Shuttle Operations Using the Search Dial</b> .....	<b>35</b>
	Jog Mode .....	35
	Shuttle Mode (SHTL Mode) .....	35
<hr/>		
<b>Clip Management</b>	<b>Thumbnail and Clip Management</b> .....	<b>36</b>
	Thumbnail Screen Names and Functions .....	37
	Changing Thumbnail Display .....	39
	Thumbnail editing .....	41
	<b>Selecting Clips</b> .....	<b>42</b>
	<b>Playing Back Clips</b> .....	<b>43</b>
	<b>Attaching Text Memos and Shot Marks</b> .....	<b>44</b>
	Attaching Text Memos .....	44
	Attaching Shot Marks .....	45
	<b>Copying Clips</b> .....	<b>46</b>
	<b>Deleting Clips</b> .....	<b>47</b>
	<b>Repairing and Reconnecting Clips</b> .....	<b>48</b>
	Repairing Bad Clips .....	48
	Reconnecting Incomplete Clips .....	48
	<b>Viewing and Repairing Clip Information</b> .....	<b>49</b>
	Viewing Clip Information .....	49
	Revising Clip Metadata .....	50
	<b>Attaching Metadata to Clips</b> .....	<b>52</b>

Preparing a Metadata Upload File .....	52
Setup to Attach Metadata .....	52
Loading Set Metadata Values .....	54
Recording Clips Containing Metadata .....	55
<b>Formatting P2 Cards .....</b>	<b>57</b>
<b>Checking Card Status .....</b>	<b>58</b>
Selecting Information to Display .....	58
Displaying Card Status Information .....	59

---

## Using Play List

<b>Play List Function .....</b>	<b>61</b>
Play List Screen Names and Functions .....	62
Stop Mode Setup .....	64
Buttons Used in Play List Operations .....	65
<b>Creating Play Lists .....</b>	<b>68</b>
Preparing New Play Lists .....	68
Audio Channel Replacement During Editing .....	69
Registering Events for Selected Clips .....	69
Registering Events From Video .....	70
Importing and Adding to Existing Play List Files .....	71
<b>Saving Play Lists .....</b>	<b>72</b>
Naming Play Lists .....	72
Saving a Play List to a P2 Card .....	72
<b>Editing Play Lists .....</b>	<b>74</b>
Opening an Existing Play List File .....	74
Changing Event IN and OUT Points .....	75
Trimming Events .....	75
Changing Event Order .....	76
Deleting Events .....	77
Saving Events .....	78
<b>Overwrite Editing of Play Lists .....</b>	<b>79</b>
Preparing for Event Overwriting .....	79
Writing Event Audio to EXTRA Track .....	80
Selecting Write Location and Audio/Video to Import .....	80
Temporary Registration and Revision of Events .....	81
Previewing and Adjusting Sound Volume .....	82
Finalizing Overwrite Editing .....	82
Recalling Events .....	83
<b>Audio Split Editing .....</b>	<b>84</b>
Registering From Video .....	85
Adding and Registering Audio Split Point (Changing Registered Point) .....	86
Trimming the Audio Split Point .....	86
Cancelling an Audio Split Setting .....	87
<b>Simplified Voice-Over .....</b>	<b>88</b>
Preparing for Voice-Over .....	88
Voice-Over From Still Image Status .....	89
Voice-Over From Playback Status .....	89
Displaying Voice-Over Events .....	90
Changing the Trimming of Audio Recording Location .....	90
<b>Viewing Event Information .....</b>	<b>91</b>

Indicating Event Property .....	91
Event Review .....	92
<b>Playing Back Play Lists .....</b>	<b>93</b>
Setting the Playback Time Code (TC) .....	93
Playing Back the Play List .....	94
<b>Creating New Clips From the Play List (Edit Copy) .....</b>	<b>95</b>

---

## Using USB Connectors and SD/SDHC Memory Cards

<b>Using USB Connectors .....</b>	<b>96</b>
Using the Unit as a USB Host .....	96
Using the Unit as a USB Device .....	96
<b>Connecting a PC to This Unit .....</b>	<b>97</b>
Switching to USB Device Mode .....	97
<b>Using This Unit With a Hard Disk .....</b>	<b>98</b>
Supported Hard Disks .....	98
Switching to USB Host Mode .....	99
Formatting Hard Disks .....	99
Exporting to a Hard Disk in Card Units .....	100
Displaying Hard Disk Information (Explorer Screen) .....	101
Displaying Clip Thumbnails on a Hard Disk .....	102
Importing Data from the Hard Disk to a P2 Card .....	103
<b>Using SD/SDHC Memory Cards .....</b>	<b>104</b>
Displaying Miscellaneous SD Memory Card Information .....	104
Formatting SD Memory Cards .....	104

---

## Setup

<b>Unit Setup .....</b>	<b>106</b>
<b>Changing Settings .....</b>	<b>107</b>
Change Operations .....	107
Using a Lock to Protect the User Setting File .....	108
Returning to Factory Defaults (Initial Settings) .....	108
<b>Item Settings .....</b>	<b>109</b>
SYSTEM .....	109
BASIC .....	111
OPERATION .....	114
INTERFACE .....	117
TIME CODE .....	117
VIDEO .....	119
AUDIO .....	123
DIF .....	126
MENU .....	126
Saving Menu Settings to SD Memory Cards .....	128
<b>Time Code, User Bit and CTL .....</b>	<b>130</b>
<b>Superimpose Screen .....</b>	<b>134</b>
<b>Audio V Fade Function .....</b>	<b>135</b>
<b>Audio Recording Channels Selection .....</b>	<b>136</b>
Audio Recording Channels .....	136

---

**For Long and Trouble-Free  
Operation**

Condensation .....	137
Maintenance .....	137
Error Messages .....	138
WARNING information display .....	139
“HOURS METER” information display .....	144
List of Shortcuts .....	145
Updating the Firmware in This Unit .....	147
Handling P2 Card Recording .....	148
Specifications .....	149
Menu index .....	151

# Included Accessories

Power cord .....	1 (AJ-HPM100P)
	2 (AJ-HPM100E)
CD-ROM .....	1

## ■ Information on software for this product

1. Included with this product is software licensed under the GNU General Public License (GPL) and GNU Lesser General Public License (LGPL), and users are hereby informed that they have the right to obtain, change and redistribute the source codes of this software.

Details on GPL and LGPL can be found on the installation CD provided with the unit. Refer to the folder called "LDOC". (Details are given in the original (English-language) text.)

To obtain the source codes, go to the following home page:

<https://eww.pavc.panasonic.co.jp/pro-av/>

The manufacturer asks users to refrain from directing inquiries concerning the source codes they have obtained and other details to its representatives.

2. Included with this product is software which is licensed under MIT-License.

Details on MIT-License can be found on the installation CD provided with the unit. Refer to the folder called "LDOC". (Details are given in the original (English-language) text.)

## ■ Panasonic makes no guarantees for your recordings

Please understand that Panasonic makes no guarantees for your recordings in cases where images and/or sound were not recorded as you intended due to problems with this unit or P2 cards.

## ■ What to remember when throwing memory cards away or transferring them to others

Formatting memory cards or deleting data using the functions of the unit or a computer will merely change the file management information: it will not completely erase the data on the cards. When throwing these cards away or transferring them to others, either physically destroy them or use a data deletion program for computers (commercially available) to completely erase the data. Users are responsible for managing the data on their memory cards.

## ■ Place of Installation

Do not install this unit in a location exposed to direct sunlight as this may deform the cabinet or damage the LCD screen.

## ■ Liquid crystal displays

- While 99.99% or more of the pixels on an LCD screen will function normally, 0.01% may either be dead or constantly lit (seen as red, blue or green dots). This is not a malfunction.
- There may be some unevenness on the screen depending on the image displayed.
- Wiping or rubbing the LCD screen with a rough cloth may damage it.
- Leaving an unchanging image on the screen for a long period of time may create a temporary afterimage (burn-in).
- LCD response and brightness vary with ambient temperature.
- In a high-temperature and high-humidity location, the LCD panel characteristics may change and result in uneven image quality.

\*SD logo is a trademark.

## Optional Accessories

- AVC-Intra Codec board  
AJ-YBX200G

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◆ **NOTE:**

- Do not use optional boards other than the above product.



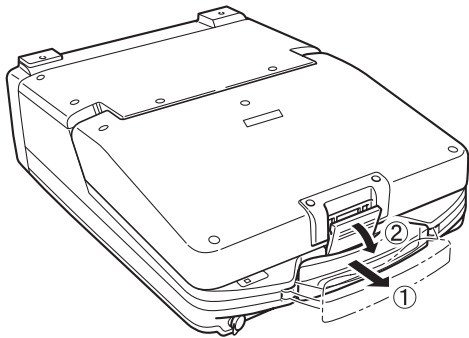
# Opening and Closing the Top Panel

## ◆NOTE

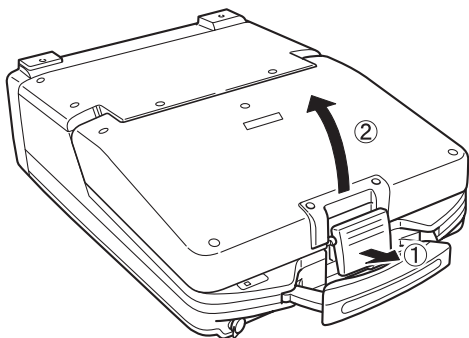
- Take care to avoid pinching your fingers when opening and closing the top panel.
- Check that the card lock is set to on before closing the top panel. Be sure to set the card lock to on before closing the top panel. Never use force to close it when the lock is not set to on as this will damage the unit.

## Opening the Top Panel

- 1 Pull out the handle, then pull the top of the lever towards you to release the lock.

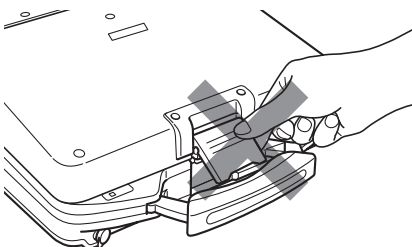


- 2 Free the bottom of the lever. Then hold the top panel and raise it to open.



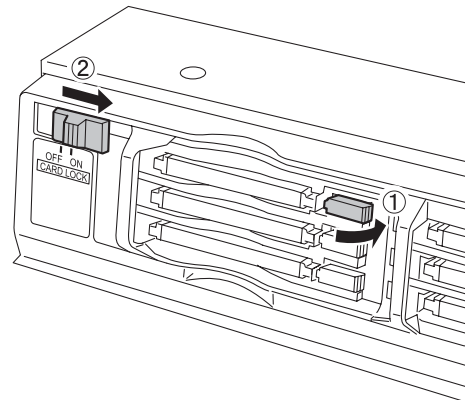
## ◆NOTE

- Do not expose the lever to excessive force.

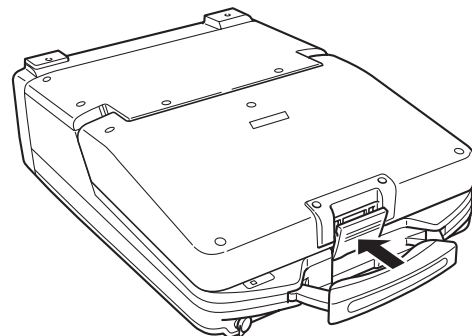


## Closing the Top Panel

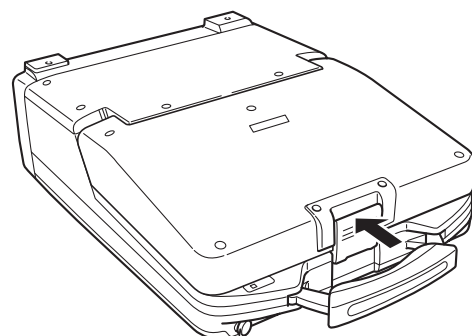
- 1 Make sure the EJECT button is folded downwards. If not folded, fold the EJECT button to the right and set the card lock to on.



- 2 Close the top panel and engage the bottom of the lever with the receptacle in the lower portion of the panel assembly.



- 3 While making sure that the bottom of the lever has been properly seated, press the top of the lever towards the rear to lock it.

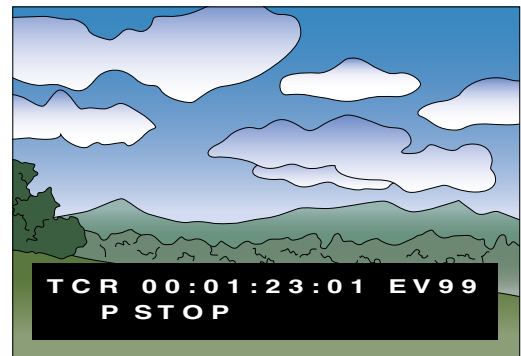
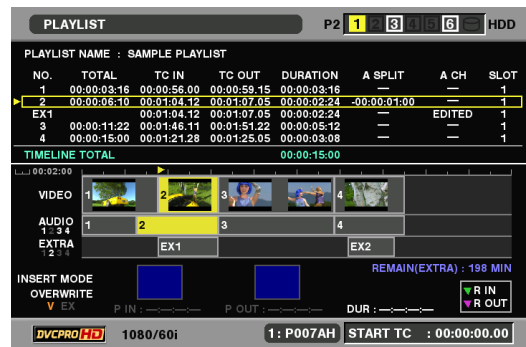


# Introduction

## Features

The AJ-HPM100 is a portable memory card recorder/player equipped with six P2 card (\*) slots and a 9-inch color LCD monitor. Capability to record and play back audio and video in the compressed DVCPRO HD, DVCPRO50, DVCPRO/DV and AVC-Intra (option) formats on six P2 cards (\*) allows you to use the unit like a conventional editing VTR player. The AJ-HPM100 comes with the following features.

**MEMO:** A memory card with the "P2" logo (for example, the separately sold AJ-P2C008HG) is referred to as a "P2 card" in this manual.



## ■ Connecting a P2 Card Camera

A P2 card recorded in a P2 camera recorder plugs directly into a PC card slot for immediate access. The P2 card is a semiconductor memory card that Panasonic developed for professional AV use.

<About P2 cards>

Recording time (cards used: 1)

Model Number	DVCPRO/DV (Audio 2ch)	DVCPRO50 (Audio 4ch) AVC-Intra50 (Audio 8ch)*	DVCPRO HD (Audio 8ch) AVC-Intra100 (Audio 8ch)*
AJ-P2C004HG	Approx. 16 min.	Approx. 8 min.	Approx. 4 min.
AJ-P2C008HG	Approx. 32 min.	Approx. 16 min.	Approx. 8 min.
AJ-P2C016RG	Approx. 64 min.	Approx. 32 min.	Approx. 16 min.

\* Assumes installation of the optional AJ-YBX200G AVC-Intra Codec board.

**MEMO:** These are card models and capacities available as of August 2007. Greater capacities and technical innovation may extend the recording time.

- This unit cannot use AJ-P2C002SG (2 GB) cards.
- Visit the web site below and go to P2 support desk page for the latest information on P2 card and SD/SDHC memory cards.  
English: <https://www.pavc.panasonic.co.jp/pro-av/>

## ■ 9-inch Wide LCD Monitor

A 9-inch wide LCD monitor is provided for ease of viewing HD video.

## ■ Dial Jog/Dial Shuttle

The jog provides slow playback at rates between -1.0 to +1.0. The shuttle allows high-speed forward and reverse playback up to 100 times normal speed. At speeds up to 10x, the sound is also audible.

## ■ Thumbnails for Managing Clips Visually

The 9-inch color LCD monitor on the front panel displays clips (thumbnails) that represent P2 card content. Settings can be made to show only specific clips in the thumbnail screen. Clips selected from the thumbnail list can be played back immediately, shot marks can be added, file data regarding the clips can be confirmed and added and other clip management operations are also available.

<About clips>

A clip is a single data item that contains video, audio, metadata and other additional information. Normally, a clip is one shot generated from the start of recording until recording stops. However, when a shot spans multiple P2 cards, the video on each card is handled as an independent clip. The image at the start of recording appears in the thumbnail screen as a representative image of that clip.

## ■ Creating Play Lists and the Playback Function

You can select video and audio recorded on the P2 cards installed in the unit for playback in the desired order.

- A wealth of play list editing functions
  - Audio IN point split: The play list makes it possible to move the audio IN point forward or backward relative to the video IN point.
  - Voice-over: Separately recorded audio data can replace an audio segment on one or two channels during playback.
  - AV overwrite editing: This feature allows you to overwrite edit and play back any audio and video segment (for 2 channels) on the play list.

## ■ Time code/Player function for editing provided

This unit has a built-in TCG (time code generator) and TCR (time code reader). In addition to the internal time code, external time code input or a VITC input signal can be recorded as the time code.

The unit can also be used as a player for an editing system using RS-422A.

## ■ Compatible with HD (Native clips can only be played back), SD, NTSC and PAL

This unit can record and play back HD, SD, NTSC and PAL signals. It can also handle analog video, SDI, as well as IEEE1394 input and output.

\* Native clips

Native clips are clips recorded on the AJ-HPX2000 or other P2 card camera recorder that records only active frames. (For details, refer to the Operating Instructions supplied with the camera.) Such clips are viewed at 24PN, 30PN (59.94 Hz) or 25PN (50 Hz) and cannot be recorded on this unit. This unit converts such clips to 60P (50P) or 60i (50i) for playback.

## ■ High-quality 8-channel digital audio

8-channel PCM audio where each channel (HD SDI has 8 independent channels while the analog interface has 4 independent channels) can be recorded separately or mixed.

## ■ Built-in up and down cross conversion

Built-in up and down cross conversion playback function is provided as standard.

## ■ Menu-based Setup

Perform setup while viewing the setup menus on the 9-inch color LCD monitor of this unit or a monitor TV display.

## ■ Connection to Hard Disk for Handling Large Data Volumes

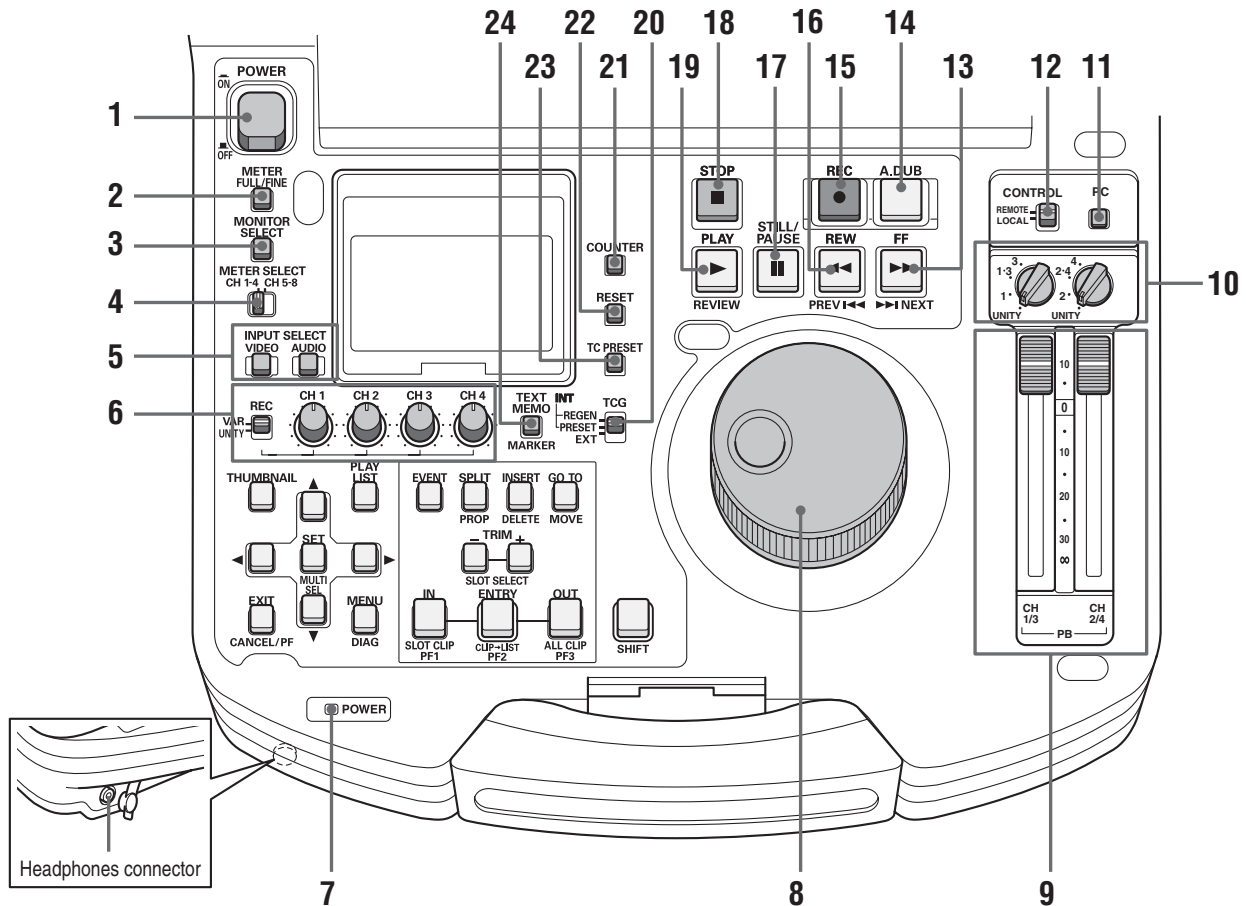
Card data can be saved onto a hard disk that is equipped with a USB 2.0 interface. Data stored on HDD can be written back to a card. A USB 2.0 connection with a PC allows you to use P2 cards inserted in the slots on this unit as mass storage. This setup provides direct nonlinear editing.

### ■ **AVC-Intra Codec Option Supported**

The addition of an optional AVC-Intra Codec board AJ-YBX200G will enable use of the AVC-Intra Codec.

# Control Reference Guide

## Audio and Video Controller



### 1. POWER switch

Turns the power on and off.

### 2. METER (FULL/FINE) selector button

Switches the scale of the audio level meter.

FULL mode:	Selects the standard scale (-∞ to 0 dB range)
FINE mode:	Selects a scale divided into 0.5 dB increments. “■” shows reference level (as set in setup menu).

### 3. AUDIO MONITOR SELECT button

Switches the audio signals to be output to the MONITOR L/R connectors and the headphones jack. Each press of the button switches the output signals to the MONITOR L/R connectors and the headphones jack as described below.

When the METER SELECT switch is set to CH 1 to 4:	[CH1 / 2]→[CH3 / 4]→ [CH1 / 1]→[CH2 / 2]→ [CH3 / 3]→[CH4 / 4]→ [CH1+2 / 1+2]→ [CH3+4 / 3+4]
When the METER SELECT switch is set to CH 5 to 8: (selectable only with HD format)	[CH5 / 6]→[CH7 / 8]→ [CH5 / 5]→[CH6 / 6]→ [CH7 / 7]→[CH8 / 8]→ [CH5+6 / 5+6]→ [CH7+8 / 7+8]

The L/R lamps in the audio level meter indicate which signal is selected.

#### 4. METER SELECT switch

Switches to CH1-4 or CH5-8 in the audio meter and the monitor.

#### 5. INPUT SELECT buttons

Switch between video and audio input signals. You can also switch the input signals to internal signals selected in setup menu No. 601 (VIDEO INT SG).

---

**VIDEO:** Each press of the VIDEO button switches the input video signal in the following order: [CMPST] → [SDI] → [1394] → [SG]. When SG is selected, the signal switches to the internal signal selected in setup menu No. 601 (VIDEO INT SG).

---

**AUDIO:** Each press of the AUDIO button switches the input audio signal in the following order: [ANALOG] → [SDI] → [SG]. When VIDEO is set to 1394, AUDIO is forcibly set to 1394.

---

#### 6. AUDIO REC VOL SEL switch

##### UNITY/VAR switch

---

**UNITY:** Records the audio signals at a fixed level regardless of the positions of the audio level controls.

---

**VAR:** Records audio signals at the level set with the audio level controls.

---

##### Audio level controls

Use these controls to adjust the recording levels of the audio signals (CH1/CH2/CH3/CH4). However, the recording level cannot be adjusted during 1394 input.

#### 7. POWER indicator

Lights when the power is on.

#### 8. Search dial

Use to search and check video. Each press of the dial alternates it between SHTL (shuttle) mode and JOG mode. When the power is turned on, the search dial will not operate unless it is first returned to the STILL position.

#### 9. Audio playback level controls

Adjust the playback level of audio signals (of channels selected using the UNITY/VAR channel select switch). However, they cannot adjust the playback level of 1394 output signals. CH5 to 8 are at all times played back at a fixed level.

#### 10. UNITY/VAR channel select switches

---

**UNITY:** Plays back audio signals at a fixed level regardless of the positions of the audio level controls.

---

**1(2):** Plays back and outputs audio CH1(2) at the level adjusted using the audio level controls to CH1(2) and at a fixed level to CH3(4).

---

**1+3  
(2+4):** Plays back and outputs audio CH1(2) and CH3(4) at the level adjusted using the audio level controls to CH1(2) and CH3(4).

---

**3(4):** Plays back and outputs audio CH3(4) at the level adjusted using the audio level controls to CH3(4) and at a fixed level to CH1(2).

---

#### 11. PC button

Switches between the USB host mode for connecting to a hard disk drive and the USB device mode for connecting to a personal computer.

Press this button to open the mode selection screen on the LCD monitor and select the desired mode.

→For details, refer to “Using USB Connectors” (page 96).

#### 12. CONTROL switch

Use this switch to enable remote control of this unit via the 9-pin REMOTE.

#### 13. FF/NEXT buttons

Press to fast forward. Select the speed in setup menu No. 102 (FF. REW MAX). In the playback mode, hold down the SHIFT button and press the FF button to move to the beginning of the next clip.

During GUI display (thumbnail display and play list display), hold down the SHIFT button and press the FF button to move to the last thumbnail or event.

#### 14.A. DUB button

Press this button to make a voice over recording in the play list mode, or to overwrite copy an event audio to an EXTRA track.

→For details, refer to “Simplified Voice-Over” (page 88), and “Writing Event Audio to EXTRA Track” (page 80).

#### 15. REC button

Press this button and the PLAY button simultaneously to start recording. Press this button during playback

mode to check EE mode video and audio on the monitor (EE mode is not available during IEEE1394 input). Press the STOP button to return to the original video and audio.

## 16. REW/PREV button

Press to rewind. Select the speed in setup menu No. 102 (FF. REW MAX).

In the PB mode, hold down the SHIFT button and press the REW button to move to the beginning of the current or previous clip.

During GUI display (thumbnail display and event list display), hold down the SHIFT button and press the REW button to move to the first thumbnail or event.

## 17. STILL/PAUSE button

Press this button to engage the search mode and display a still picture. In the search mode, you can use the search dial for JOG and SHTL (shuttle) operations.

## 18. STOP button

Press this button to stop. When the setting in setup menu No. 122 (STOP EE SEL) is PB, you can monitor still pictures and when set to EE, you can monitor input video.

## 19. PLAY/REVIEW button

Press to start playback.

Press this button and the REC button simultaneously to start recording.

When the play list is displayed, hold down the SHIFT button and press this button to review (playback starting 3 seconds before the IN point continuing to 1 second beyond the OUT point) an event at the pointer position. The overwrite edit mode permits preview of unfinalized events.

## 20. TCG switch

---

**INT REGEN:** The internal time code generator synchronizes with the time code read by the time code reader from the P2 card. Select whether to make TC or UB the REGEN in setup menu No. 505 (TCG REGEN).

---

**INT PRESET:** Uses the internal time code generator of this unit. Settings can be preset on the operation panel and the remote control panel.  
→Refer to "Time Code, User Bit and CTL" (page 130).

---



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**EXT:** Uses the external time code input from the TIME CODE IN connector or video signal VITC, SLTC, SVITC and IEEE1394 digital input connectors. Select in setup menu No. 507 (EXT TC SEL).

---

## 21. COUNTER button

Press to switch the counter display of the LCD panel. Each press of this button changes the counter display as follows: [CTL (relative position from the beginning)] → [TC (read time code)] → [UB (user bit of the read time code)].

## 22. RESET button

Press this button when the LCD panel counter is in the CTL mode to reset the counter display to [0:00:00:00]. Hold down the TC PRESET button and press this button when the LCD panel counter is in the TC mode (read time code) or UB mode (user bit of the read time code) to reset the time code generator.

When using the on-screen keyboard, use this button to delete all text, IN points in play lists, etc.

## 23. TC PRESET button

Set the TC (read time code) or UB (user bit of read time code) value.

To make a setting, first press this button to change the flashing digits. However, this function is not available while in thumbnail mode, play list mode, and USB host mode.

## 24. TEXT MEMO/MARKER button

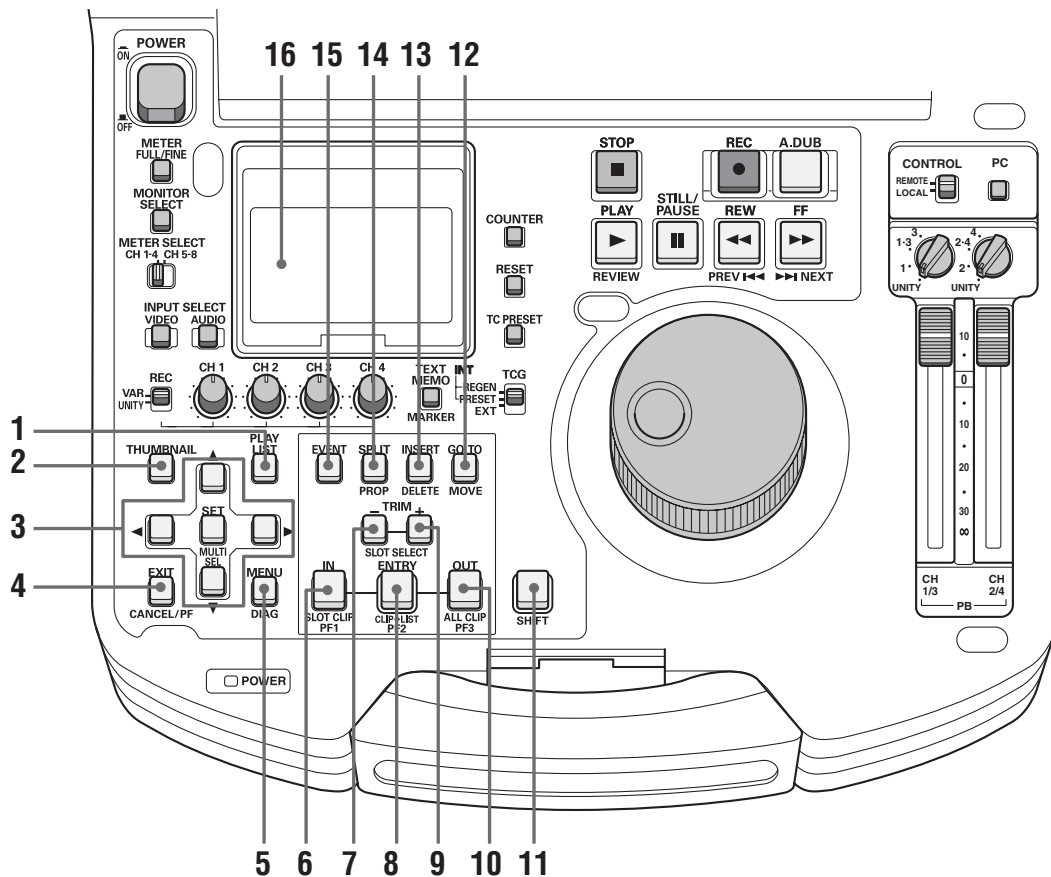
---

**TEXT MEMO:** Press this button during recording and playback where you wish to enter a text memo. In the thumbnail screen, press this button to add a text memo at the start of a clip.

---

**MARKER:** In the thumbnail screen, while pressing the SHIFT button, press this button to turn marker display of the clip at the pointer position on and off.  
→For details, refer to "Attaching Text Memos" (page 44) and "Attaching Shot Marks" (page 45).

---



## 1. PLAY LIST button

Press to create play lists or to play a created play list. The PLAY LIST button lights and the play list screen appears on LCD panel or on a monitor output image. Press again to exit the play list screen. The PLAY LIST button goes off.

A play list menu setting makes it possible to select whether ending playback in the play list screen should return you to the play list screen or show a still image.

## 2. THUMBNAIL button

Press this button and the THUMBNAIL button lights and the thumbnail screen appears on LCD panel or on a monitor output image. Press again to exit the thumbnail screen and the THUMBNAIL button goes out.

## 3. Cursor buttons

The four outer buttons are cursor buttons and the center button is the SET button. Use them to move the cursor in menus, thumbnails, events, etc. to select items.

## 4. EXIT/CANCEL/PF button

When the PLAY LIST/ THUMBNAIL buttons are lit:

Press to return to the thumbnail display from property. Selecting [EXIT] in a menu has the same effect as pressing the SET button.

Hold down the SHIFT button and this button simultaneously to cancel an action (for example, canceling the selection of an item).

When the PLAY LIST/ THUMBNAIL buttons are off:

Press this button and buttons 6, 8 and 10 will function as the PF1, PF2 and PF3 keys. Press this button again before pressing another button to exit this mode.



## 5. MENU/DIAG button

### MENU button

Press this button to open the MENU. Press again to return to the previous screen.

### DIAG (SHIFT+MENU) button

Press to show information about this unit. Press again to return to the previous screen. However, this function is not available while thumbnails or play lists are displayed.

Information about this unit include [HOURS METER], [WARNING], [UMID] and [DIF]. Use the SET button to switch among them.

[WARNING]:	Shows warning information.
[HOURS METER]:	Shows the unit serial number, the number of hours it has been on, and the number of times it has been switched on and off.
[UMID]:	Shows UMID information for the current video.
[DIF]:	Shows various information on the current DIF (the IEEE 1394 interface).

## 6. IN/SLOT CLIP/PF1 button

Use these functions to create play lists. Press the ENTRY button and this button simultaneously when registering an event (when the PLAY LIST button and the EVENT button are both on) to set an event IN point. Hold down this button and press the RESET button to cancel the IN point of the selected event.

→Refer to the Section “Using Play List” (page 61).

- Press the SHIFT button and this button simultaneously while thumbnails are displayed to switch the clip display between SELECTED and specific SLOT.
- Press the ENTRY button and this button simultaneously when the PLAY LIST button is off to register a cue-up point.
- Press this button after the PF button when the THUMBNAIL and PLAY LIST buttons are off to obtain access to the setup menu registered using the PF1 button.

## 7. TRIM-/SLOT SELECT- button

Hold down the IN, OUT, or SPLIT button and press this button in the play list mode to shift the IN, OUT, or SPLIT point 1 frame forward.

Hold down the SHIFT button and this button simultaneously when the PLAY LIST button is off to

move to the previous recording slot position. Pressing this button when the unit is in slot 1 results in a move to slot 6.

## 8. ENTRY/CLIP (LIST/PF2 button)

Use these functions to create play lists.

Pressing the IN, OUT or SPLIT button simultaneous with this button while registering an event (the PLAY LIST and EVENT buttons are on), allows you to set the IN, OUT and SPLIT points.

- Pressing the SHIFT button simultaneous with this button in the play list mode allows you to add a clip selected from a thumbnail display to the play list.
- Press this button after the PF button when the THUMBNAIL and PLAY LIST buttons are off to obtain access to the setup menu registered using the PF2 button.

## 9. TRIM+/SLOT SELECT+ button

Hold down the IN, OUT, or SPLIT button and press this button in the play list mode to shift the IN, OUT, or SPLIT point 1 frame backward.

While the PLAY LIST button is off, hold down the SHIFT button and this button simultaneously to move to the previous recording slot position. Pressing this button when the unit is in slot 6 results in a move to slot 1.

## 10. OUT/ALL CLIP/PF3 button

Use these functions to create play lists. Press the ENTRY button and this button simultaneously when registering an event (when the PLAY LIST button and the ENTRY button are both on) to set an event OUT point.

Hold down this button and press the RESET button to cancel the OUT point of the selected event.

→For details, refer to “Using Play List” (page 61).

- Press the SHIFT button and this button simultaneously while thumbnails are displayed to return the clip display to ALL.
- Press the ENTRY button and this button simultaneously when the PLAY LIST button is off to register a cue-up point.
- Press this button after the PF button when the THUMBNAIL and PLAY LIST buttons are off to obtain access to the setup menu registered using the PF3 button.

## 11. SHIFT button

Use this button together with the FF, REW and SET buttons.

## 12. GO TO/MOVE button

Use this button to move the IN, OUT, or SPLIT point of events registered in a play list. It can also be used for CUE UP when the THUMBNAIL and PLAY LIST buttons are off. Hold down the IN/OUT button and press the GO TO button to move and cue up to the IN and OUT points. Hold down the SHIFT button and press this button in the play list mode to move events.

→For details, refer to “Using Play List” (page 61).

## 13. INSERT/DELETE button

Use this button to insert a new event between events in the play list (when set to the insert edit mode).

Also use to select audio and video to overwrite event audio and video (when set to the overwrite edit mode).

Hold down the SHIFT button and press this button (DELETE) when thumbnails are displayed to delete a selected clip.

In the play list, hold down the SHIFT button and press this button to delete a selected event.

→For details, refer to “Using Play List” (page 61).

The DELETE button allows you to perform on-screen keyboard and file delete operations.

## 14. SPLIT/PROP button

Press the ENTRY button and this button simultaneously in the play list register mode to register an event after shifting the audio IN point relative to the video IN point. Press the SHIFT button and this button simultaneously during GUI, thumbnail, or play list display (when no menu is displayed) to show the property of a clip or an event.

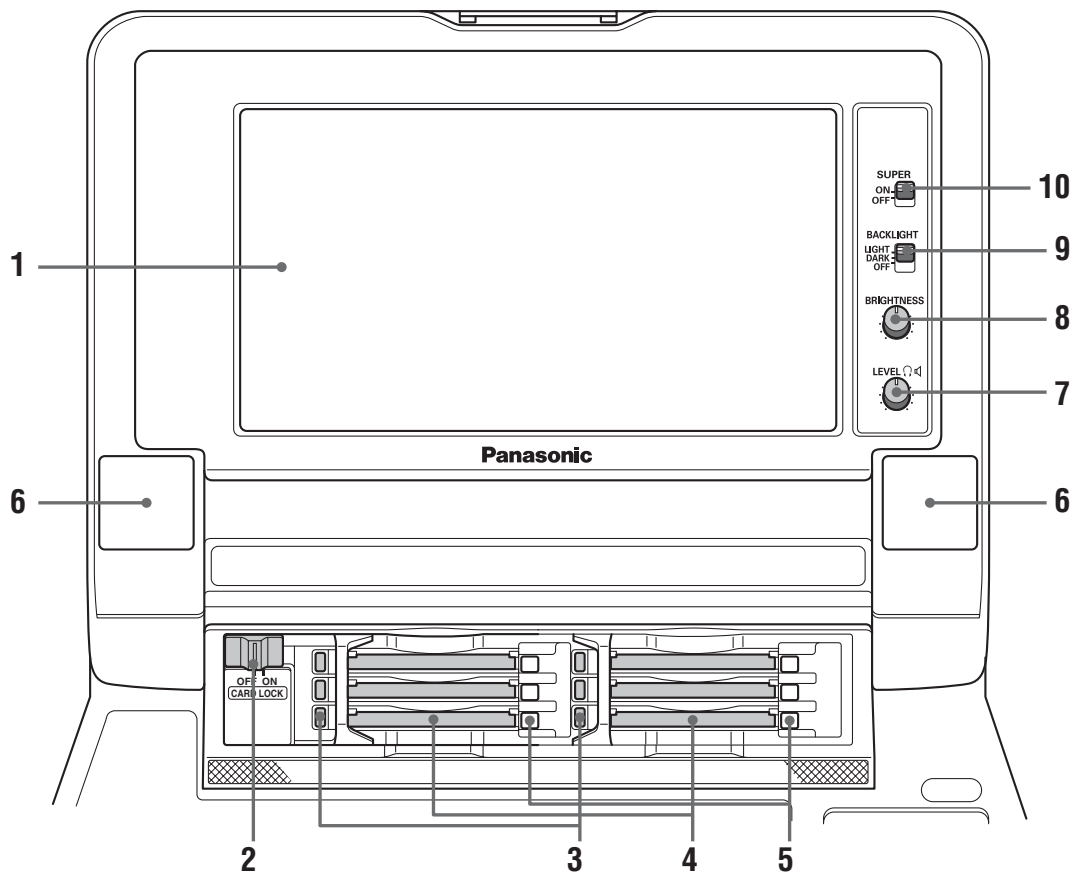
## 15. EVENT button

Press this button when the PLAY LIST button is on to light the EVENT button. This engages the play list event register/edit modes and allows you to set the IN, OUT, and SPLIT points.

Press again to exit the event register/edit mode and return to the previous screen. The EVENT button goes out.

## 16. LCD panel

→For details, refer to “LCD Panel” (page 24).



## 1. 9-inch Color LCD Monitor

Thumbnail screens facilitate video searches and checks.

## 2. Card Lock

This lever locks the cards in place when the top panel is closed. Set the lever to ON before closing the top panel.

## 3. P2 Card Access LEDs

These LEDs indicate P2 card status.

→For details, refer to “P2 Card Access LEDs and P2 Card Status” (page 34).

## 4. P2 Card Slots

Insert P2 cards into these slots.

Firmly insert the card until the EJECT button pops out. After inserting a card, fold the EJECT button downward.

## 5. EJECT button

Use this button to remove a P2 card inserted in a P2 card slot. Raise the button and press it in firmly. Do not use the EJECT button when a P2 card access LED flashes orange.

→For details, refer to “P2 Card Access LEDs and P2 Card Status” (page 34).

## 6. Stereo speakers

Outputs the audio monitor sound.

## 7. LEVEL control

Adjusts the sound volume of the internal speaker and headphones.

## 8. BRIGHTNESS control

Adjusts the brightness of the LCD monitor.

However, it cannot adjust the brightness of time codes and other superimposed indications.

## 9. BACKLIGHT switch

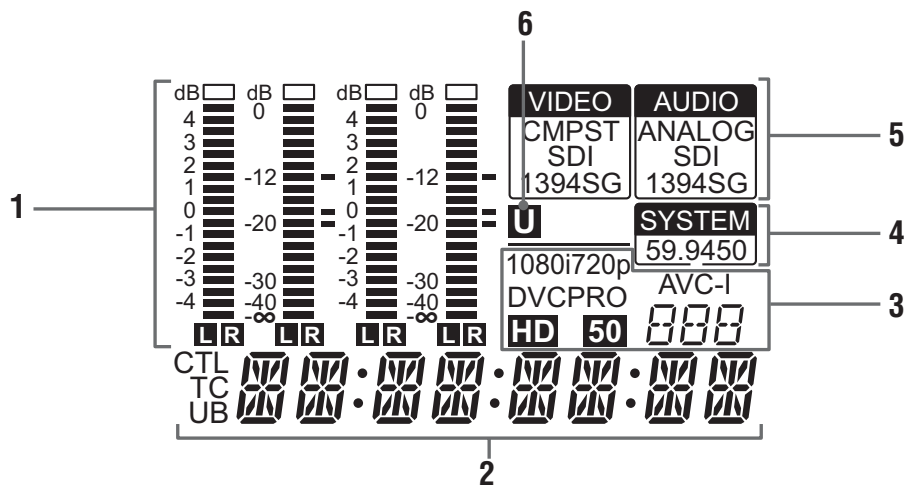
Switches the brightness of the LCD panel backlight as shown below.

LIGHT:	Bright
DARK:	Dark
OFF:	Turns the LCD off

## 10. SUPER switch

Switches the super output as follows.

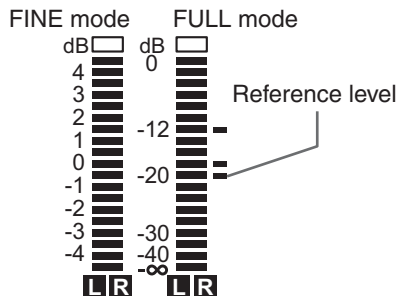
ON:	Outputs the time code and other superimposed information to the LCD monitor and monitor output image.
OFF:	Does not output any superimposed information.



## 1. Level meter

Indicates the level of audio signals for CH1, CH2, CH3 and CH4.

The input signal level of audio signals is indicated during recording and when EE is selected. During playback the meter indicates output signal levels. Use the METER selector button to switch the audio level display to FULL mode or FINE mode. Use the setup menu to change the reference level.



## 2. Counter display

This function shows the counter and time codes. It displays CTL (relative position from the beginning), TC (read time code) and UB (user bit of the read time code).

## 3. Format display

Indicates the set record format and the format of video recorded on an inserted P2 card.

## 4. TV system display

Indicates the selected TV system. Use the SYSTEM setting No. 25 (SYSTEM FREQ) setup menu to switch between 59.94 Hz or 50 Hz.

59.94:	Lights when a 59.94 Hz system frequency is selected.
50:	Lights when a 50 Hz system frequency is selected.

## 5. INPUT SELECT display

Indicates selected VIDEO and AUDIO status. Except for analog audio signals, the indicator flashes when there is no input for the selected signal. When SDI input is selected, this display flashes if the input signal is not compatible with the system format.

### VIDEO

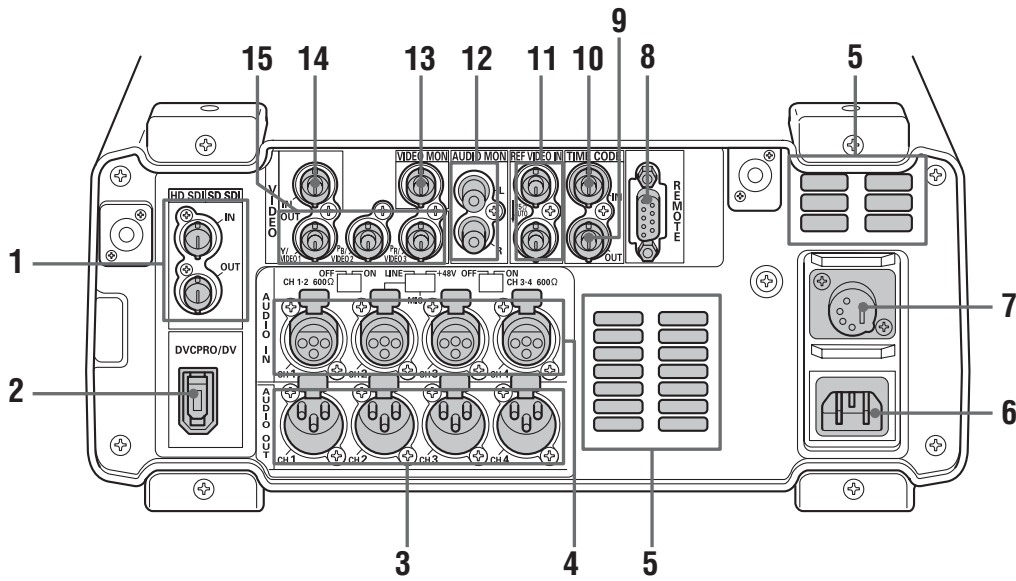
CMPST:	Analog composite video input signals
SDI:	Serial digital video input signals
1394:	IEEE1394 input signals
SG:	Internal reference signals

### AUDIO

ANALOG:	Analog audio input signals
SDI:	Serial digital audio input signals
1394:	IEEE1394 input signals
SG:	Internal reference signals

## 6. U lamp

In the EE mode, this lamp lights when an input signal contains UMID information. Lights during playback when the recording contains UMID information.



### 1. SERIAL DIGITAL COMPONENT AUDIO and VIDEO IN/OUT connectors

These connectors enable input and output of serial digital component audio and video signals.

◆ **NOTE:**

- The input digital audio signals must be synchronized with the video input signals. Otherwise, the audio signals will be affected by noise.

### 2. IEEE 1394 digital input/output

This is an IEEE1394 digital interface. It inputs/outputs IEEE1394 compressed digital signals that comply with the IEC61883-1, IEC61883-2 and SMPTE396M standards. Use 6-pin connectors. This connector does not support bus power.

◆ **NOTE:**

- AVC-Intra 50 and AVC-Intra 100 (optional) recording and playback do not support input/output via the IEEE 1394 connector.

### 3. ANALOG AUDIO OUT connectors

Output analog audio signals.

### 4. ANALOG AUDIO IN connectors/switches

Analog audio input connectors

The input impedance of CH1-2 to CH3-4 can be switched. The LINE, MIC and 48V switches make it possible to use CH2 as a microphone input.

LINE:	Line input for audio input signals from audio device
MIC:	Audio input signal from microphone with internal power supply (this unit does not provide phantom microphone power).
+48 V:	Audio input signal from microphone with external power supply (this unit provides phantom microphone power).

### 5. Fan

Cools this unit. Install the unit making sure that the air vents are not blocked. If the fan stops due to a breakdown, "E-10" will appear on the counter display. While the unit will operate even when the fan has stopped, it should be shut down immediately.

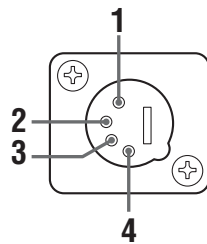
### 6. AC IN socket

Connect the supplied power cord to a power outlet.

## 7. DC IN socket

Connect a 12 V DC power supply here. Use an external 12 V DC, 4.3 A (15 A peak or more) DC power supply. When the voltage goes below approx. 10.6 V, the power supply of this unit shuts down (when menu No. 180 BATTERY SEL is not "TYPE-A" or "TYPE-B"). The unit does not automatically recover when the power comes back on. First turn the POWER switch off, wait a few seconds before turning the switch back on.

Pin No.	Signal
1	Ground
2	—
3	—
4	+12V



Be sure to check the rating of any external DC power supply you intend to use to confirm that it is compatible with this unit. Also check the pin arrangement of the DC OUT socket of an external DC power supply with the DC IN socket of this unit to make sure the polarity is right. Erroneously applying +12 V to the GND terminal could cause a fire or lead to injuries. Connecting a cord with incorrect polarity to the DC IN connector of another device that is also connected to this unit could lead to fire or injury.

### ◆ NOTE:

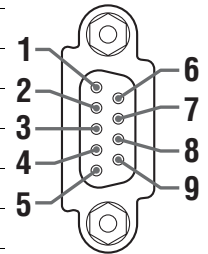
- When using an external DC power supply, be sure to first turn on the power to the DC power supply and then turn on the POWER switch on this unit. If the order of the above procedure is reversed, this unit will malfunction since the voltage of an external DC power supply rises slowly.
- Inadvertently connecting an input of 18 V or more triggers an internal protection circuit that shuts down the unit. The unit will operate normally once the power voltage returns to normal levels. Be sure not to connect an AC power supply to this socket.
- When the external DC power supply is connected and set to on, a minute amount of current will still flow even if the POWER switch on this unit is set to OFF.

## 8. Remote control connector

This unit can be connected to an external controller to enable remote operation of the unit.

### RS422A REMOTE(9P)

Pin No.	Signal
1	FRAME GROUND
2	TRANSMIT A
3	RECEIVE B
4	RECEIVE COMMON
5	—
6	TRANSMIT COMMON
7	TRANSMIT B
8	RECEIVE A
9	FRAME GROUND



## 9. TIME CODE OUT connector

Outputs the playback time code during playback.  
Outputs the time code generated by the internal time code generator during recording.

## 10. TIME CODE IN connector

Use to record an external time code onto P2 cards.

## 11. REF VIDEO IN connectors

Input connectors for HD and SD reference video signals.

### ◆ NOTE:

- It is recommended that this unit be used with a system that inputs a reference video signal since video and audio output signals may otherwise deteriorate.
- Input tri-level sync signals with both positive and negative polarities as HD reference video signals. Input signals that meet the input signal and data format.
- Input a black burst signal that complies with SMPTE170M and ITU624-4 to use for SD reference video signals.
- When no cable is connected to REF VIDEO OUT connector, the REF VIDEO IN connector is automatically terminated at 75 ohm. Connecting a cable to this connector releases 75. termination.

## 12. AUDIO MONITOR OUT connector

This connector outputs the audio signal (CH1, CH2, CH3 and CH4) that is selected with the MONITOR SELECT button.

## 13. ANALOG COMPOSITE MONITOR OUT connector

Outputs analog composite monitor video signals.

## 14. ANALOG COMPOSITE VIDEO IN connector

Inputs analog composite video signals.

## 15. ANALOG COMPONENT VIDEO OUT connectors

Inputs analog composite video signals during output of HD signals. When SD is selected as the output signal, three composite signals are output. Setup menu 643 OUT MODE SEL determines the signals that are output.

### ◆ NOTE:

- Use only shielded cable for cables (except the AC cable) that are connected to the rear panel. Cables connected to serial digital signal connectors (SDI IN/OUT connectors) should be double shielded cables.

## IEEE 1394 Digital Interface

### ■ Basic Setup

Make sure that menu No. 882 DIF IN CH and No. 883 DIF OUT CH on this unit are set to "AUTO."

### ◆ NOTE:

- Only signals that comply with the format selected in menu No. 020 SYS FORMAT can be input. When the SYS FORMAT is 480i (576i at 50 Hz), operations are limited to menu No. 024 REC FMT (SD) settings.
- The selected recording format and the format of a recording on an inserted P2 card determine the output format.
- \* Select CH1/CH2 or CH3/CH4 as the output audio channels (in DVCPRO/DV).

### ■ Precautions

- Connect this unit to only one other device.
- If the E-92 warning (1394 INITIAL ERROR) appears, reconnect the connecting cable or turn the power off and back on again.
- AV signals may be disrupted when connected devices are turned on and off or when the interface cable is connected or disconnected.
- It may take the system a few seconds to stabilize after switching input signals or changing modes. Start recording after the system has stabilized.
- The following applies to recordings made via the IEEE 1394 digital interface as well as to the signals it outputs.
  - The audio level control knobs on the front panel do not work.
  - The settings in menu No. 680 and 681 regarding blanking periods are ignored.
  - Video and audio recording and EE type video and audio of signal inputs other than 1x speed playback signals are not guaranteed.
- The following applies to video input via the IEEE 1394 digital interface.

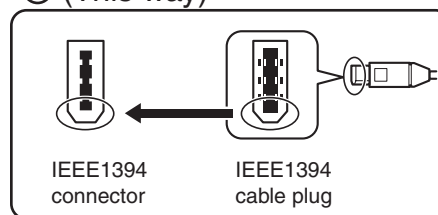
- In the EE mode, SDI, analog video output signals and time codes become irregular. Do not use these signals for recording.

- Unprocessed video and audio signals are output via the IEEE 1394 digital interface during SLOW and STILL playback. When monitored on another device, these video and audio signals may sound different than when played back on this unit. Do not start up any other application program when this unit is connected to other devices during nonlinear editing. Such applications could adversely affect the video output by such a device during nonlinear editing.

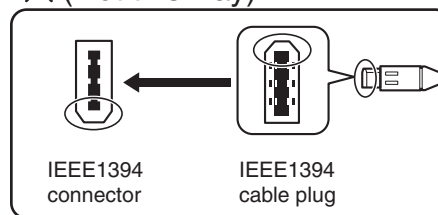
### ◆ NOTE:

- Observe the following when connecting an IEEE 1394 cable (separately sold). (An incorrect connection may damage this unit or external devices.)
- Turn off all connected devices before connecting or disconnecting IEEE1394 cables. Connect all devices provided with a ground connector to ground (or to a common ground).
- When connecting the unit to a device with a 4-pin connector, connect the cable to the 6-pin connector on this unit first.
- Be sure to correctly connect an IEEE1394 cable to a connector.
- When connecting a cable to a 6-pin IEEE1394 connector, make sure that it mates properly with the connector.

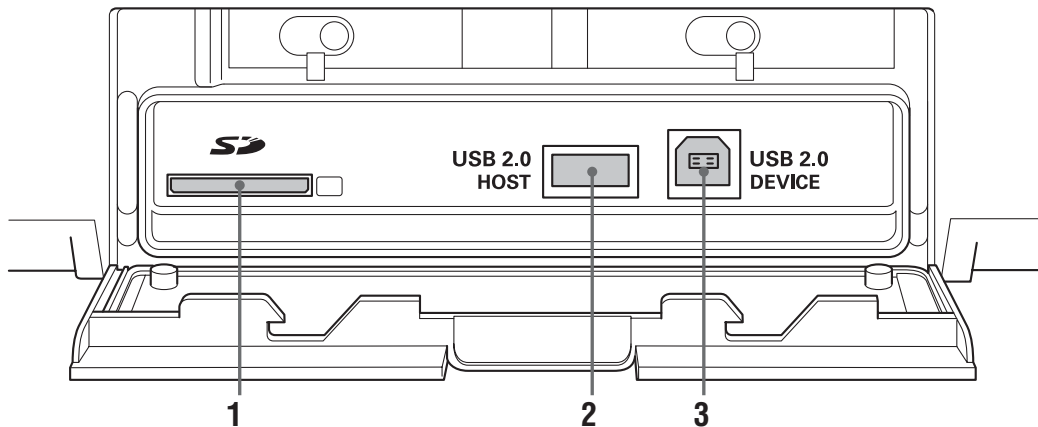
### ○ (This way)



### ✗ (Not this way)



- When connecting this unit to an external device, first connect the IEEE1394 cable to the external unit and then to this unit. Connecting the cable to this unit first may damage it by the static electricity generated.
- AVC-Intra 50 and AVC-Intra 100 (optional) recording and playback do not support input/output via the IEEE 1394 connector.



## 1. SD/SDHC Memory Card Slot

Insert an SD/SDHC memory card.

Insert the card with the label side facing up and the end with the corner cut off facing in. Push in the card until it locks into place. To remove the card, first make sure that the lamp is not on, then push it in the direction of insertion to release the lock.

### ◆ NOTE:

<Precautions in using SD/SDHC memory cards>

- Do not insert any cards other than SD/SDHC memory cards.
- This unit uses only SD/SDHC memory cards that comply with the SD/SDHC specifications. Other memory cards such as MultiMediaCard cannot be used. When using a miniSD card, be sure to use an adaptor dedicated for use with the miniSD card to insert the card into the SD Memory Card Slot.
  - \* MultiMediaCard (MMC) is a registered trademark of Infineon Technologies AG.
  - \* The SDHC (SD High Capacity) card is a new standard, established by the SD Card Association in 2006, for large-scale memory cards with capacities above 2 GB.
- To format an SD card on a PC, use the following software that can be downloaded from the support sites listed below.
- This unit supports the following SD and SDHC memory card capacities.
  - SD (8 MB to 2 GB): 8 MB, 16 MB, 32 MB, 64 MB, 128 MB, 256 MB, 512 MB, 1 GB, 2 GB
  - SDHC (4 GB only): 4GB
- For the latest information not available in the Operating Instructions, visit the P2 support desk at the following Web sites.
  - For English: <https://www.pavc.panasonic.co.jp/pro-av/>
- The term "SD memory card" will be used below as a generic for SD and SDHC memory cards.

## 2. USB 2.0 connector (Type A)

Connect P2 store and USB 2.0 compliant hard disk drives for use in the USB host mode.

→Refer to "Using USB Connectors" (page 96).

## 3. USB 2.0 connector (Type B)

Connect personal computers and other devices for use in the USB device mode.

→Refer to "Using USB Connectors" (page 96).

### ◆ NOTE:

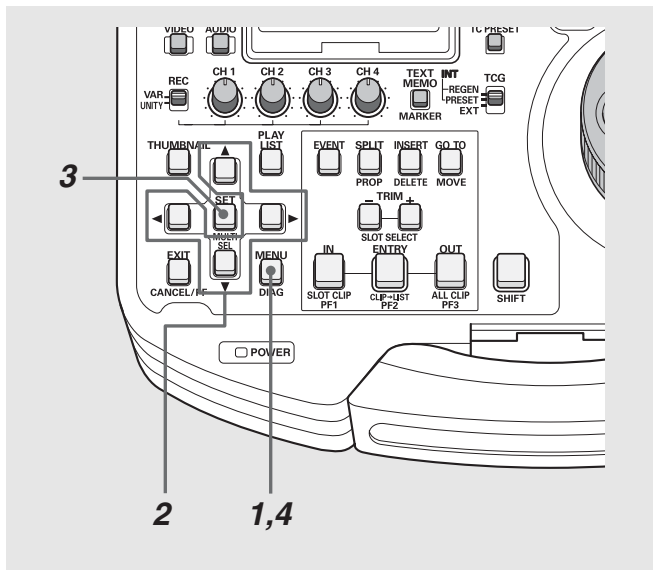
- Use double shielded cable for making connections to USB 2.0 connectors.





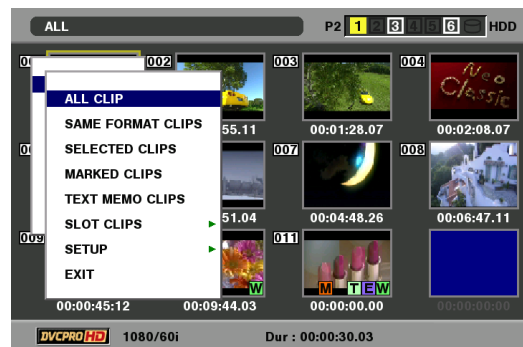
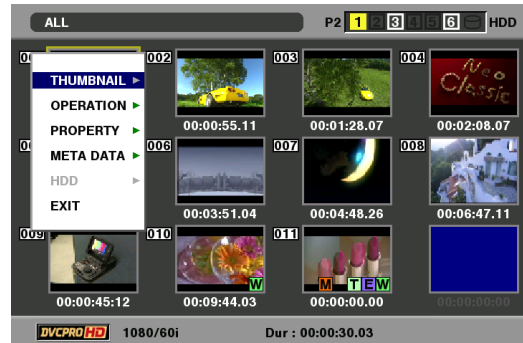
## Menu Operations

Press the MENU button in each mode to open the menu.  
Perform menu operations as described below.



**1** Press the MENU button to open the menu.

**2** Use the cursor buttons to place the cursor on menu items.



### ◆ NOTE:

- Press the ▲ and ▼ buttons to move the cursor up and down.
- Press ► to open a submenu.
- Press ◀ or the EXIT button to return to a higher level.

**3** Press the SET button.

### ◆ NOTE:

- Some menu items may display a confirmation screen.
- Use the cursor buttons to select a process and press the SET button.

**4** Press the MENU button to end processing.

### ◆ NOTE:

- Some menu items, when selected, will automatically return you to the previous screen.

# Using the On-screen Keyboard

## Using the Full Keyboard

The full keyboard appears when necessary.  
 Move the cursor to the character you want to enter and press the SET button.  
 Use the cursor buttons to move the cursor.

PLAYLIST NAME : SAMPLE NAME

1	2	3	4	5	6	7	8	9	0	SP	BS	[DELETE] BS
Q	W	E	R	T	Y	U	I	O	P	-	Caps	[GO TO] Caps
A	S	D	F	G	H	J	K	L	.	_	OK	[ENTRY] OK
Z	X	C	V	B	N	M	◀	▶	▶▶	EXIT	[+] ▶	[+] ▶

The keyboard keys have the functions listed below.

Key	Function	Shortcut keys
BS	Deletes one character	SHIFT+INS
Caps	Toggles between upper and lower case	GO TO
OK	Saves made entries and closes the on-screen keyboard	ENTRY
EXIT	Cancels made entries and closes the on-screen keyboard	EXIT
◀◀	Moves the cursor to the first character	SHIFT+REW
◀	Moves the cursor 1 character space back	-
▶	Moves the cursor 1 character space forward	+
▶▶	Moves the cursor to the location after the last character	SHIFT+FF

◆ **NOTE:**

- RESET deletes all entered characters.
- When you press the shortcut EXIT button, a confirmation message appears. Select [YES] and press the SET button to close the on-screen keyboard.

## Using the Ten Keypad

The ten keypad appears when necessary.  
 Move the cursor to the character you want to enter and press the SET button.  
 Use the cursor buttons to move the cursor.

START TC : 00: 00: 00.00

7	8	9	BS	[DELETE] BS
4	5	6	OK	[ENTRY] OK
1	2	3	EXIT	
0	◀	▶	[+] ▶	[+] ▶

The keypad keys have the functions listed below.

Key	Function	Shortcut keys
BS	Deletes one character	SHIFT+INS
OK	Saves made entries and closes the soft keyboard	ENTRY
EXIT	Cancels made entries and closes the soft keyboard	EXIT
◀	<Decimal entries> Moves the cursor 1 character space back	-
	<Time code entries> Moves the cursor 2 character spaces back	
▶	<Decimal entries> Moves the cursor 1 character space forward	+
	<Time code entries> Moves the cursor 2 character spaces forward	

# Recording, Playback and P2 Card Handling

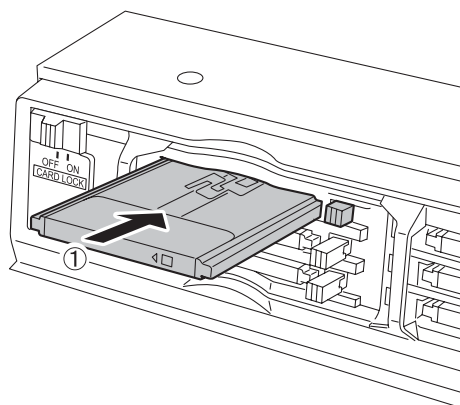
## Insert a P2 Card

### ◆ NOTE:

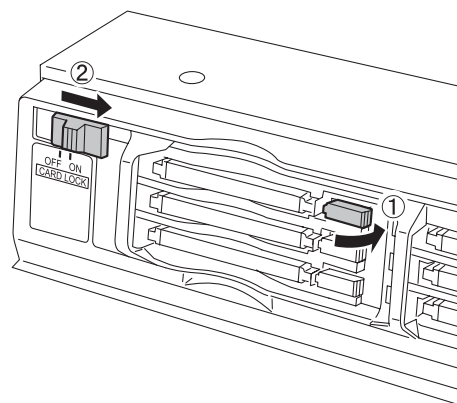
- When you use this unit for the first time, be sure to set the internal clock in setup menu No. 069 (CLOCK SET).

**1** Turn on the POWER switch of this unit.

**2** Insert a P2 card in a P2 card slot, and push it in until the EJECT button pops out.







**3** Bend the protruding EJECT button downwards to the right and set the card lock to ON.



- The P2 card access LEDs on this unit show P2 card status when a P2 card is inserted.  
→For details on P2 card status, refer to “P2 Card Access LEDs and P2 Card Status” (page 34).

## Recording and Playback

To start recording after a stop in the recording mode, press the REC  button and the PLAY  button simultaneously. Recording starts on the P2 card whose access LED lights orange. Press the STOP  button to stop recording. Press PLAY  to start playback. Recording cannot be started from the thumbnail/play list mode.

→For details, refer to “Control Reference Guide” (page 17).

### ◆ NOTE:

- The P2 card access LED for a slot where a P2 card is inserted during playback of a previously inserted card will remain off and the second P2 card is not recognized. The second P2 card is recognized when playback ends.
- A P2 card inserted in another slot during recording of a previously inserted card will cause the P2 card access LED to flash and the card will be recognized. Do not remove the P2 card from the slot while it is being recognized.

- P2 cards are played back and recorded in the following slot order: 1 → 2 → 3 → 4 → 5 → 6 → 1
- When the power is turned on and the slot selected for recording at the last power off contains the same P2 card, that slot will again be selected for recording. If the slot does not contain a P2 card or contains another P2 card, a card in a slot with the lowest number will be selected for recording.
- When a P2 card becomes full during recording, a slot with a higher number that contains a card with free space will be selected for recording.

<Precaution in using P2 cards>


- Format P2 cards only on a P2 card device.

## Removing P2 Cards

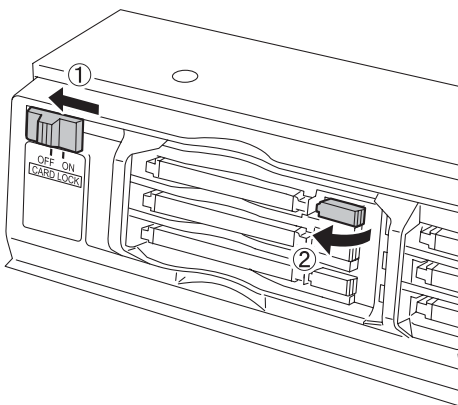
### ◆ NOTE:

- Do not remove P2 cards during access or during recognition directly after insertion (when the P2 card access LED flashes orange).

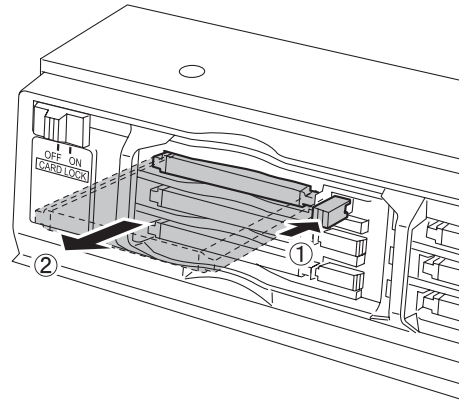
### 1 Press the STOP button.

When the P2 card access LED of a card to be removed flashes orange, press the STOP  button to stop the flashing.

### 2 Set the card lock to OFF and raise the EJECT button.



### 3 Press the EJECT button to eject the P2 card.

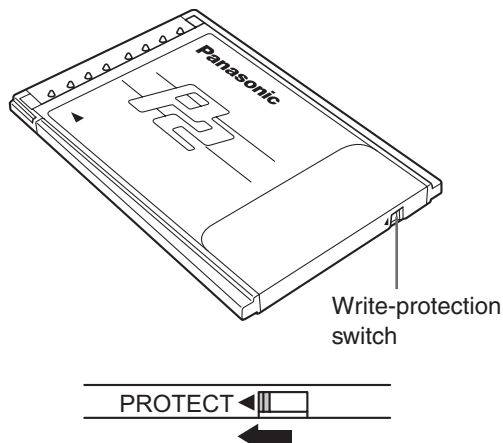


### ◆ NOTE:

- Removing a P2 card in the thumbnail screen automatically closes the thumbnail screen.
- Do not remove P2 cards during access or during recognition directly after insertion (when the P2 card access LED flashes orange); otherwise the P2 cards may be damaged. If a P2 card by any chance is removed during access, [E-30] appears on the LCD monitor and the LCD panel displays the [AUTO OFF] warning. All P2 card access LEDs will flash rapidly in orange. Turn off the power, and then turn it back on.
- The clips on a P2 card that was removed during access may no longer be in the right order. Check the clips and perform the necessary repair operation.  
→ For details, refer to "Repairing Bad Clips" (page 48).
- Removing a P2 card during formatting will in most cases destroy the formatting. Reformat the card after restarting the PC.

## Preventing Accidental Deletion

Set the write-protection switch to [PROTECT] to prevent accidental deletion of data recorded on a P2 card.



### ◆ NOTE:

- Switching the write-protection switch during recording, playback or other access operation will not take effect until after these access operations (playback, recording, etc.) complete.

## P2 Card Access LEDs and P2 Card Status

P2 card access LED	P2 card status
Green light	Reading and writing are possible.
Orange light	Reading and writing are possible. The card is selected for recording.
Flashes orange	Reading and writing are possible.
Flashes rapidly in orange	P2 card is being recognized.
Flashes green	The P2 card has no remaining memory capacity. Available only for reading. The write-protection switch on the P2 card is set to [PROTECT]. Available only for reading.
Off	The P2 card is not properly formatted. Reformat the card on this unit. This card cannot be used in this unit. Replace the card. No P2 card has been inserted. The unit is in the USB DEVICE mode and is not accessing the P2 card.

### ◆ NOTE:

- Detailed check of P2 card status is possible. Refer to "Checking Card Status" on page 58.

## Dividing clips over 4 GB in length

A continuous recording that is longer than the durations given below when an 8 GB P2 card is used in this unit will result in the automatic division of the recording into different clips. Even so, the recordings on the two clips can be handled as a single clip in thumbnail operations (display, delete, repair, copy, etc.) on a P2 device. Such a recording may be handled as separate clips in nonlinear editing software or on PCs.

Recording format	Recording duration
DVCPRO HD	Approx. 5 min.
DVCPRO50	Approx. 10 min.
DVCPRO/DV	Approx. 20 min.
AVC-Intra50*	Approx. 10 min.
AVC-Intra100*	Approx. 5 min.

\* Available when the optional AVC-Intra Codec board AJ-YBX200G is installed

## For the latest information on P2 cards and SD memory cards

For the latest information not available in the Operating Instructions of P2 cards and SD memory cards, visit the P2 support desk at the following Web sites.

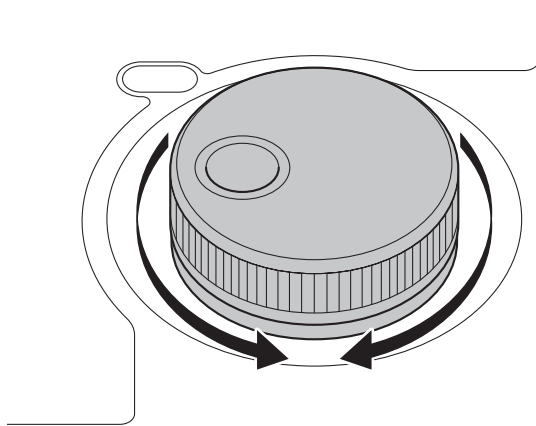
For English: <https://www.pavc.panasonic.co.jp/pro-av/>

# Jog and Shuttle Operations Using the Search Dial

The search dial is used to search and check video. Each press of the dial alternates it between SHTL mode and JOG mode.

When the power is turned on, the search dial will not operate unless it is first returned to the STILL position.

## Jog Mode



- 1 Press the search dial so that it remains pressed in.**  
The jog mode is now engaged.

- 2 Turn the search dial.**

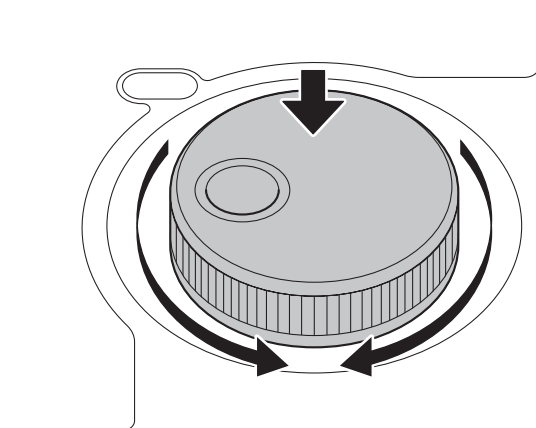
The dial's click stops are released and playback is performed at the speed the dial ( $-1$  to  $+1\times$ ) is turned. When the dial stops turning, the video becomes a still picture.

- 3 To go to another mode from the jog mode, press the button of the desired mode.**

### ◆ NOTE:

- The direct search mode that allows you to go directly to the shuttle mode or jog mode by turning the search dial is a factory default.
- You can select [KEY] in setup menu No. 100 (SEARCH ENA) so that the unit will not engage the search mode unless you press the STILL/PAUSE button.

## Shuttle Mode (SHTL Mode)



- 1 Press the search dial to release it.**  
This engages the shuttle mode.  
When the power has just been turned on, turn the search dial to its center position.

- 3 Turn the search dial.**

The playback picture speed changes from 0 to  $\pm 32\times$  depending on dial position.

Use setup menu No. 101 (SHTL MAX) to set maximum speed to  $\pm 8$ ,  $\pm 16$ ,  $\pm 32$ ,  $\pm 60$  or  $\pm 100\times$ . The dial has a click-stop at the center for viewing still pictures.

- 4 To go to another mode from the shuttle mode, press the STOP  button or other button.**

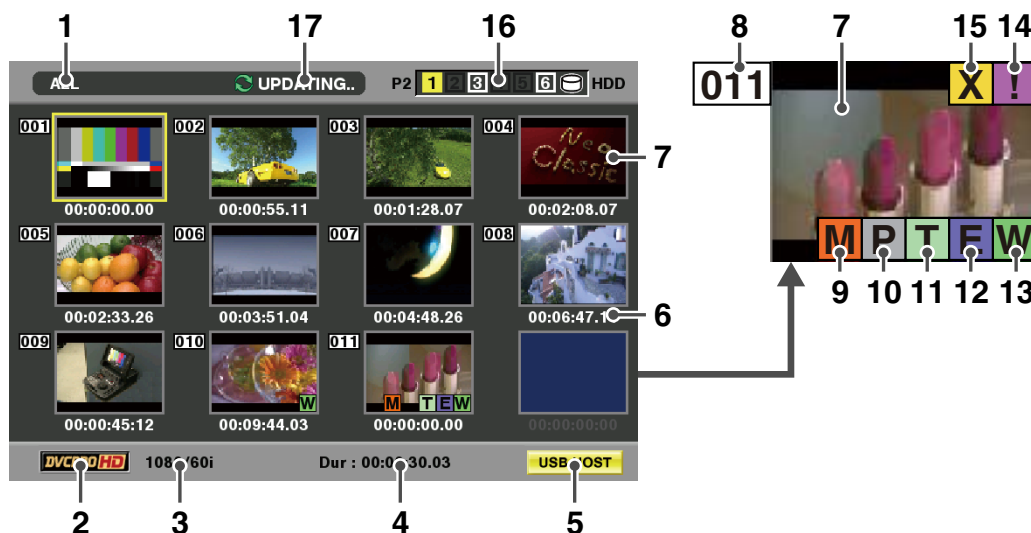
### ◆ NOTE:

- The playback audio is audible at speeds in the range  $-10$  to  $+10\times$  from the audio monitor output.
- The playback audio in the search mode contains noise.
- Playing back a clip that spans a multiple of P2 cards at speeds faster than  $\pm 1\times$  may break up the sound in the transition to another card; this is normal and not indicative of a malfunction.
- Playing back a clip at speeds faster than  $-10\times$  may break up the sound; this is normal and not indicative of a malfunction.

- 2 Press the STILL/PAUSE button.**

# Clip Management

## Thumbnail and Clip Management



This unit provides a thumbnail screen for managing clips. A clip is a single data item that contains video, audio, metadata and other additional information. Normally, a clip is one shot generated from the start of recording until recording stops. However, when a shot spans multiple P2 cards, the video on each card is handled as an independent clip.

The thumbnail screen shows a list of thumbnails. Each thumbnail, which is the first frame of each clip, represents that clip. These thumbnails allow you check and also perform the following clip management operations.

- Play back, delete and repair clips
- Insert text memos in clips
- Check and delete text memos
- Display and delete markers
- Format P2 cards
- Show clip property
- Show P2 card status

### ◆ NOTE:

- Thumbnails are generated from part of the captured video and therefore appear rougher than the actual video.
- Thumbnail screens are output also via the VIDEO MONITOR connector but may run off the screen depending on the type of monitor that is connected.



# Thumbnail Screen Names and Functions

## 1. Display status

Display status indicates the type of thumbnails displayed on the screen.

ALL:	All clips
SAME FORMAT:	Clips with the same format as the system
SELECT:	Clips selected with the SET button
MARKER:	Clips with shot markers
TEXT MEMO:	Clips with text memo data
SLOTn:	Clips on P2 card in slot No. n
PROPERTY:	Detailed clip information
P2/REMAIN:	Media information (amount of remaining space)
P2/USED:	Media information (amount of space used)
META DATA:	Set meta data

→For details on how to change display, refer to “Switching the Type of Information That is Displayed” (page 39).

## 2. Record mode

Indicates the record mode of the clip at the cursor position.

## 3. System format

Indicates the recording format of the clip at the cursor position.

## 4. Duration

Indicates the duration of the clip at the cursor position.

## 5. USB host mode indicator

Appears in the USB host mode.

## 6. Time display

Indicates the TC (time code) at the start of clip recording, UB (user bit at the start of clip recording), time of shooting, day of shooting, date and time of shooting or the user clip name.

→Refer to “Setting Items to Display” (page 40).

## 7. Thumbnail

Indicates the initial frame of the clip that represents it.

## 8. Clip no.

Indicates the numbers assigned to P2 card clips. Numbers are assigned starting in order from the earliest shooting date. Numbers of clips that cannot be played back are shown in red.

## 9. **M** Shot mark indicator

Indicates that a shot mark has been attached to a clip.

## 10. **P** Proxy indicator

Indicates that a clip contains a proxy attached using AJ-SPX800 or other camera. This unit cannot record proxies.

## 11. **T** Text memo indicator

Indicates a clip that contains text memo data.

## 12. **E** Edit copy indicator

Indicates an edit-copied clip.

## 13. **W** Wide indicator

Indicates a clip recorded in the 16:9 aspect ratio. This is not indicated for an HD format clip.

## 14. **!** Incomplete clip indicator

Indicates a clip spanning multiple P2 cards where one of the cards that contain part of the clip has not been inserted.

## 15. **X** Bad clip **?** Unknown clip indicator

Indicates a clip that became defective because the power was shut down during recording or was damaged for some other reason. Clips with the yellow bad clip indicator can sometimes be repaired.

→Refer to “Repairing Bad Clips” (page 48).

Clips with the red bad clip indicator cannot be repaired and should be deleted. If deleting is not possible, format the P2 card.

Instead of **?**, **X** appears to indicate that a clip is not in the P2 standard format.

## 16. P2 card slot number and hard disk drive status



P2 card and USB hard disk drive status is indicated as described below.

---

**1** - **6** The number of the P2 card slot that contains a P2 card is indicated in white. (white)

---

**1** - **6** The number of the P2 card slot of the P2 card that contains the clip at the cursor position is indicated in yellow. When a clip spans multiple P2 cards, the numbers of all the slots housing cards that contain the clip are indicated.


---

### ◆ NOTE:


The pink frame indicates either of the following conditions for an inserted P2 card.

- [RUN DOWN CARD]  
The card has been overwritten the maximum number of times.
- [DIR ENTRY NG CARD]  
Directory structure does not conform to standard specifications.


---

 (gray) Gray indicates that the USB host mode is not engaged or that it is but no hard disk drive is connected.


---

 (white) White indicates that the USB host mode is engaged and that the hard disk drive is available.

---


 (yellow) Yellow indicates that the USB host mode is engaged and that clips on the hard disk drive appears as thumbnails.

---

 (red) Red indicates that the USB host mode is engaged and that the hard disk drive does not permit copying.

---

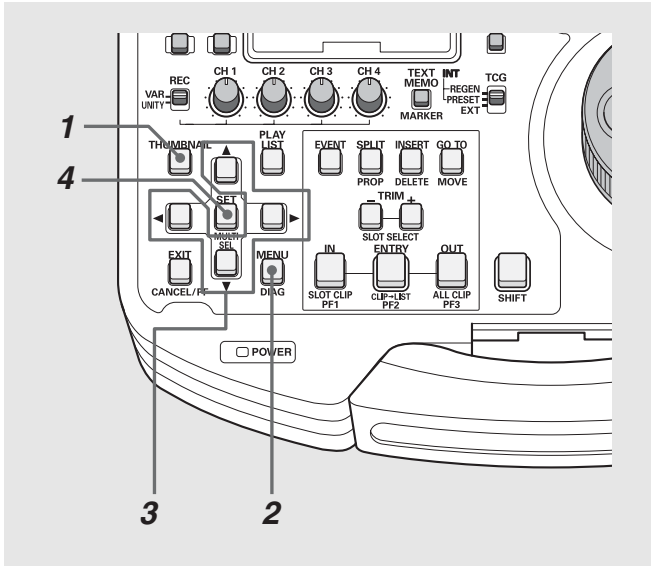
## 17. Status message

Shows messages indicating processing status. For example, screen updating shows an [UPDATING] text message and a rotating  icon.

## Changing Thumbnail Display

The thumbnail screen can be customized to suit operating conditions and improve efficiency.

### Switching the Type of Information That is Displayed



**1** Open the thumbnail screen.

**2** Press the MENU button.

**3** Use the cursor buttons to select the clip type that should appear under [THUMBNAIL].



ALL CLIP:	Show all clips
SAME FORMAT CLIPS:	Show clips in the same format as the system
SELECTED CLIPS:	Show clips selected using the SET button
MARKED CLIPS:	Show clips to which shot marks have been attached
TEXT MEMO CLIPS:	Show clips that contain text memo data
<b>◆ NOTE:</b>	
In the following instances, the thumbnail in the row below at the text memo location may be grayed out when a text memo clip appears.	
<ul style="list-style-type: none"> <li>• An AVC-Intra clip when an optional AVC-Intra codec board has not been installed.</li> <li>• An AVC-Intra clip with a different SYSTEM FREQ. setting</li> </ul>	
SLOT CLIPS:	Show clips on P2 card in slot No. n

**4** Press the SET button.

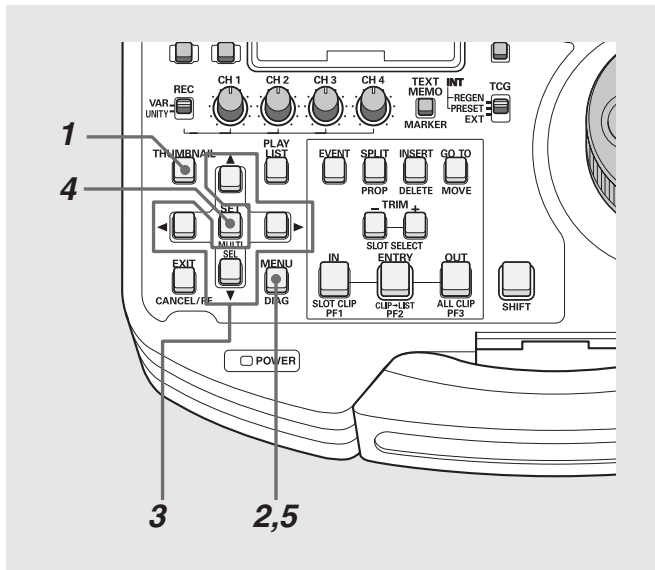
**◆ NOTE:**

(These operations can also be performed using buttons.)

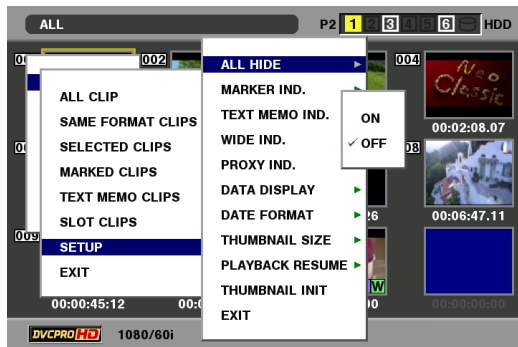
- Press SHIFT + IN and the indication changes in the following order each time these buttons are pressed: SELECTED → SLOT 1 → SLOT 2 ... SLOT 6 → SELECTED. (Only slots with cards will appear.)
- Press SHIFT + OUT to switch to ALL CLIP.

## Setting Items to Display

The thumbnail display can be customized to suit different operating needs. The following describes procedures for changing thumbnail display indicators and data settings.



- 1 Open the thumbnail screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to select the item that should appear under [THUMBNAIL] – [SETUP].



\* An underlined setting indicates an initial value.

ALL HIDE:	<u>ON</u>	Hides all indicators
	<u>OFF</u>	Indicators are displayed according to the settings made below
MARKER IND.:	<u>ON</u>	Shows the shot mark indicator
	OFF	Hides the shot mark indicator

TEXT MEMO IND.:	<u>ON</u>	Shows the text memo indicator
	OFF	Hides the text memo indicator
WIDE IND.:	<u>ON</u>	Shows the wide indicator
	OFF	Hides the wide indicator
PROXY IND.:	<u>ON</u>	Shows the proxy indicator
	OFF	Hides the proxy indicator
DATA DISPLAY:	Select items to appear in the time display (→ refer to 6 of the “Thumbnail Screen Names and Functions” (page 37)).	
	<u>TC</u>	Time code
	UB	User bit
	TIME	Time of recording
	DATE	Date of recording
	DATE	Date and time of recording
	USER	The first fifteen characters (English display mode) in the user clip name
	CLIP	(English display mode) in the user clip name
	NAME	

DATE FORMAT:	Select the format for indicating the time	
	Y-M-D	Year, month, day
	M-D-Y*	Month, day, year
	D-M-Y*	Day, month, year

### ◆ NOTE:

- This setting is reflected in the date of recording shown in the clip property, the date and time of recording indicated when selecting DATE in the DATE DISPLAY, the date of recording that appears in the clip information in the event property screen of a play list and also in the created date indicated when loading metadata or in other file indications.

\* The initial value for the AJ-HPM100P is “M-D-Y”, and for the AJ-HPM100E is “D-M-Y”.

THUMBNAIL SIZE:	The size of thumbnails that appears in one LCD monitor screen	
	LARGE	Large
	<u>NORMAL</u>	Normal
PLAYBACK RESUME:	Select whether or not to resume playback from the last playback location after a stoppage when the cursor has not been moved.	
	ON	Store stop position
	<u>OFF</u>	Play back from start
THUMBNAIL INIT:	Returns above settings to their factory defaults (initial values).	

## 4 Press the SET button.

### ◆ NOTE:

- Selecting [THUMBNAIL INIT] opens a confirmation screen. Select [YES].

## 5 Press the MENU button to end processing.

## Thumbnail editing

### 1 Attach a text memo to video you want to edit.

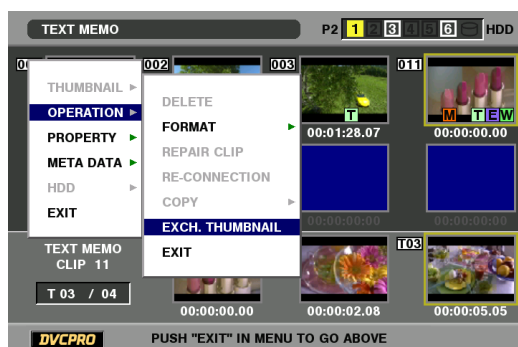
→For details, refer to “Attaching Text Memos” (page 44).

### 2 Change thumbnail display to text memo display.

### 3 Move to the row below the text memo and move the cursor to the thumbnail you want to edit.

### 4 Press the MENU button.

### 5 Use the cursor buttons to choose [OPERATION] – [EXCH. THUMBNAIL] and press the SET button.



### 6 Select [YES] and press the SET button

The Menu closes and the thumbnail reflects the changes that have been made.



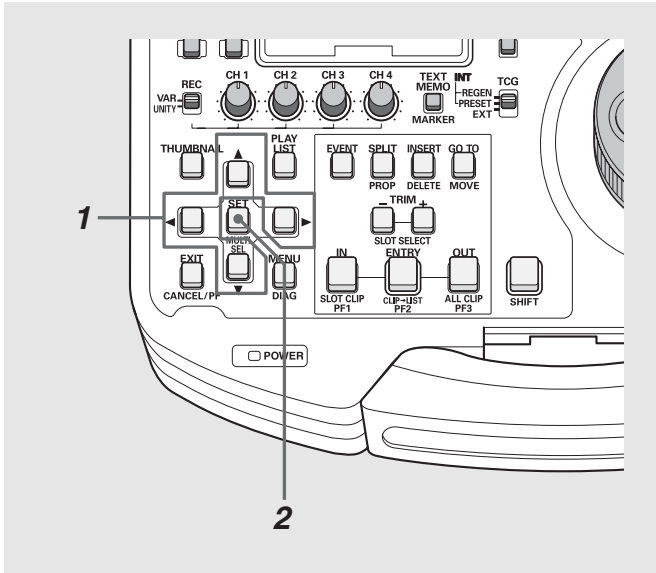
### ◆ NOTE:

- The Thumbnail field in the clip information display shows the change in thumbnail location (number of frames from the start). The number for a normal first thumbnail is 0.

- Playback starts from the beginning of the clip regardless of a change in thumbnail location.

# Selecting Clips

Select clips for processing in the thumbnail screen as described below.



## Canceling a Selection

**1** Place the cursor on a selected clip and press the SET button again.

This cancels the selection.

### ◆ NOTE:

- Holding down the SHIFT button while pressing the EXIT button cancels made selections.

**1** Use the cursor buttons to place the yellow frame (cursor) on the desired clip.



### ◆ NOTE:

- Hold down the SHIFT button and press the REW/FF button or the ▲/▼ buttons to move the cursor to the first or last clip.

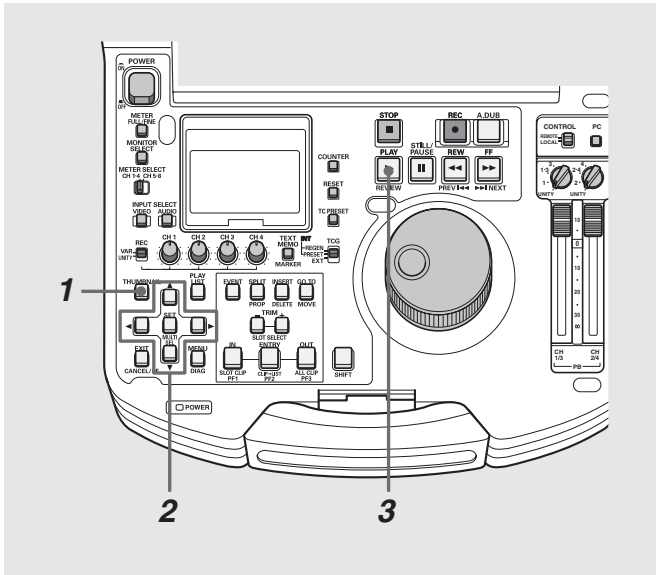
**2** Press the SET button.

A blue frame appears on the clip selected with the cursor to indicate that it is selected.

### ◆ NOTE:

- Repeat steps 1 and 2 to select multiple clips.
- After selecting a clip, move the cursor to another clip, hold down the SHIFT button and press the SET button to select another clip. This method allows you to select both clips.

# Playing Back Clips



**1** Open the thumbnail screen.

**2** Use the cursor buttons to select the clip you want to play back.



◆ **NOTE:**

- The search dial can also move the cursor.
- Hold down the SHIFT button and press the REW/FF button or the ▲/▼ buttons to move the cursor to the first or last clip.

**3** Press the PLAY button

Playback starts from the clip the cursor is on.

After the clip at the cursor location has been played, subsequent clips are played back in order. When the last clip has been played, the thumbnail screen appears.

◆ **NOTE:**

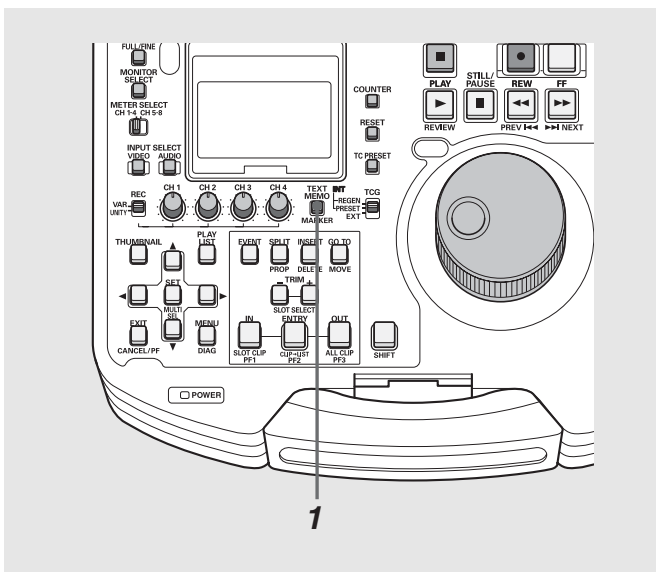
- There is no need to select (that is when the thumbnail appears inside a blue frame) a clip to play it back.
  - The thumbnail display settings can be changed to play back only selected clips or play back only clips that contain text memos.
  - Pressing the STILL button instead of the PLAY button shows a still of the first frame in the clip.
  - A clip whose clip number is red cannot be played back.
  - Pressing the REW button instead of the PLAY button results in rewind playback, while pressing the FF results in fast forward playback.
  - Pressing the STOP button during clip playback, stops playback and the thumbnail screen appears.
  - When playback stops, the cursor moves to the clip played prior to stopping.
  - Video and audio playback may be disrupted between clips of different formats (DVCPRO HD, DVCPRO50, DVCPRO/DV, AVC-Intra50\*, AVC-Intra100\*). This is normal and not indicative of a malfunction.
  - Pressing the THUMBNAIL button to close the thumbnail screen will in most cases change the playback start position back to the clip with the oldest recording time (clip number 1).
  - Changing the thumbnail screen to text memo display makes it possible to start play back from text memo location.
    - For details, refer to "Attaching Text Memos" (page 44).
- \* Available when the optional AVC-Intra Codec board AJ-YBX200G is installed

# Attaching Text Memos and Shot Marks

A text memo can be attached in a clip to mark a specific location. The user can attach shot marks to distinguish clips from each other. This function is not available on cards where the write protect switch has been set to PROTECT.

## Attaching Text Memos

Use the NEXT and PREV buttons to locate attached text memos during video playback.



**1** Press the TEXT MEMO button during recording, playback or when thumbnails are displayed.

- Press this button during recording and playback where you want to attach a text memo.
- Pressing this button in the thumbnail screen adds a text memo at the thumbnail clip location (normally at the beginning).

### NOTE:

- Up to 100 text memos can be attached in one clip.
- Pressing the TEXT MEMO button during playback may temporarily halt playback. This is normal and not a malfunction.

## Playing Back From Text Memo Location

**1** Press the THUMBNAIL button.

The Thumbnail Screen appears on the LCD monitor.

**2** Press the thumbnail menu button and choose [THUMBNAIL] – [TEXT MEMO CLIPS] from the thumbnail menu.

The thumbnails of clips with text memos appear at the top of the LCD monitor. Information on the selected clip text memo appears in the lower half of the LCD monitor.



Thumbnail display

Indicates the total number of text memos attached to clips

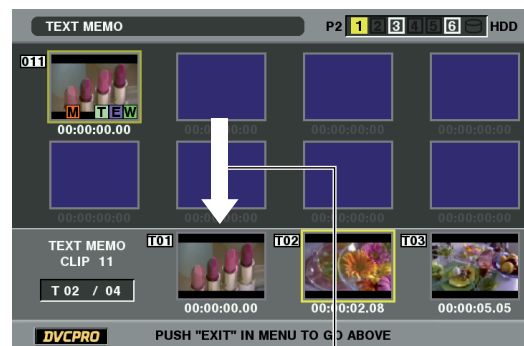
Indicates still images included with the text memos

### NOTE:

- In the following instances, the thumbnail in the row below at the text memo location may be grayed out when a text memo clip appears.
  - An AVC-Intra clip when an optional AVC-Intra Codec board has not been installed.
  - An AVC-Intra clip with a different SYSTEM FREQ. setting.

**3** Place the cursor on the clip (with a text memo) you want play back and press the SET button.

The cursor moves to the lower half of the LCD monitor.



The cursor moves



- 4** When the cursor is in the lower half of the LCD monitor, use the right and left (◀ ▶) cursor buttons to go to the thumbnail text memo you want to play back and press the **PLAY** button.

The clip is played back from the text memo time code location selected with the cursor.

When you press the **STOP** button to interrupt ongoing playback, or when playback stops upon reaching the end of the clip, the thumbnail screen reappears and the cursor returns to the thumbnail text memo location where playback was started.

Press the thumbnail menu button to select **EXIT** or press the **EXIT** button and the cursor returns to the upper half of the thumbnail screen.

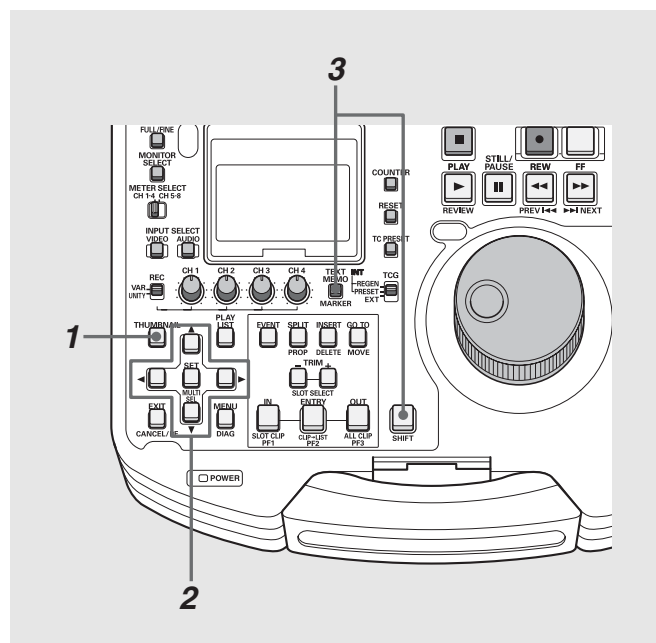
## Deleting Text Memos

Opening the text memo display from the thumbnail screen allows you to delete text memos.

- 1** Open the text memo display from the thumbnail screen.
- 2** Use the cursor buttons to move to the thumbnail for which you want to delete the text memo and press the **SET** button.  
The cursor moves to the row below.
- 3** Select the thumbnail for which you want to delete the text memo and select **[DELETE]** from the menu.
- 4** Select **[YES]** in the confirmation screen that appears.  
The text memo is deleted.

## Attaching Shot Marks

Attach shot marks to distinguish clips from each other.



- 1** Open the thumbnail screen.
- 2** Use the cursor buttons to place the cursor on the desired clip.
- 3** Hold down the **SHIFT** button and press the **TEXT MEMO** button.  
Each press of this button turns the shot mark indicator on and off.

### ◆ NOTE:

- When attaching or deleting shot marks for clips that span multiple P2 cards, be sure to load all the P2 cards that the clip is recorded on.

# Copying Clips

Clips can be copied to a P2 card in any slot.

## ◆ NOTE:

- Take care not to turn off the power or remove a card during copying. Otherwise the copied clip may become bad. If the copied clip is bad, delete it and make a new copy.
- Reconnect incomplete clips before copying them.

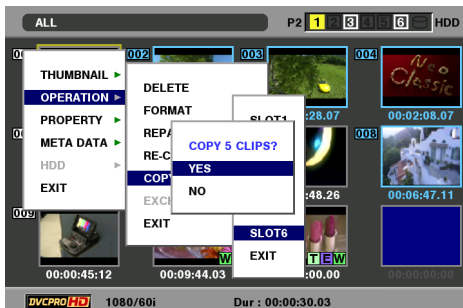
**1** Open the thumbnail screen.

**2** Select a clip to copy.

**3** Press the MENU button.

**4** Use the cross cursor buttons to choose [OPERATION] – [COPY] – [SLOTn] (the number of the P2 card slot where the copy will be placed) and press the SET button.

When multiple clips are selected, the number of selected clips appear after pressing the SET button.



**5** Select [YES] and press the SET button.

This starts copying.



## ◆ NOTE:

- To interrupt copying, press the SHIFT and EXIT buttons or the SET button to cancel the job. The incomplete copy at the destination is deleted.
- [OVER WRITE] appears when an attempt is made to place a copy (having the same GLOBAL CLIP ID) at a destination already containing an identical item. Select [YES] to overwrite or [NO] to cancel copying and then press the SET button.

**6** Press the SET button when the completion message appears.



**7** Press the MENU button to end processing.

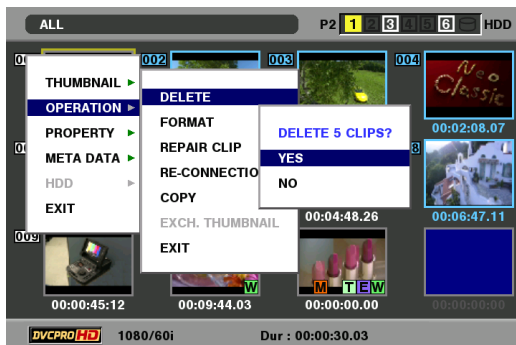
## ◆ NOTE:

- No copying is performed when any of the following error messages appear.
  - [LACK OF REC CAPACITY] Copy failed because there is not enough space at the copy destination.
  - [UNKNOWN CONTENTS FORMAT!] Copy failed because the selected clip was bad.
  - [NO COPY TO SAME CARD!] Copy failed because an attempt was made to place the copy on the same disk.
  - [TOO MANY CLIPS!] Copy failed because too many clips were selected.
- Copying performed at the bottom row of a text memo when the text memo is selected copies the selected text memo and the next text memo. When there is no text memo beyond the selected text memo, all data to the end of the clip is copied.

# Deleting Clips

Use the following procedure to delete a defective clip from a P2 card.

- 1 Open the thumbnail screen.
- 2 Select the clip to delete.
- 3 Press the MENU button.
- 4 Use the cursor buttons to choose [OPERATION] – [DELETE].



- 5 Select [YES] and press the SET button.  
This deletes all selected clips.
- 6 Press the MENU button to end processing.

◆ **NOTE:**

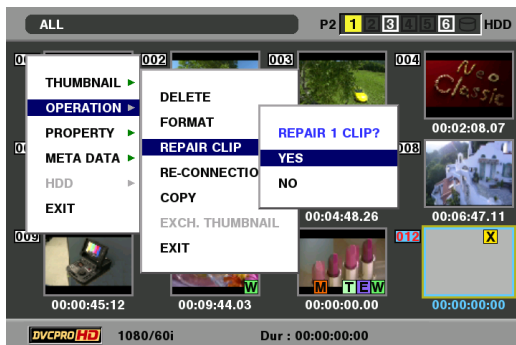
- Instead of steps 3 to 4, you can also hold down SHIFT and press the INSERT button to delete a clip.
- To interrupt deleting, press the SHIFT and EXIT buttons or the SET button to cancel the operation.  
Partially deleted clips cannot be restored by canceling.

# Repairing and Reconnecting Clips

## Repairing Bad Clips

This section describes how to restore bad clips that have been damaged due sudden power outages during recording or for other reasons. Such clips are marked by the bad clip indicator (yellow **X**). Use the following procedure to repair bad clips.

- 1 Open the thumbnail screen.
- 2 Select the bad clip to repair.
- 3 Press the MENU button.
- 4 Use the cursor buttons to choose [OPERATION] – [REPAIR CLIP].



- 5 Select [YES] and press the SET button.
- 6 Press the MENU button to end processing.

### ◆ NOTE:

- Some clips are so badly damaged they cannot be repaired. Such clips are indicated by a red **X**.

## Reconnecting Incomplete Clips

A clip spanning multiple P2 cards that cannot be recognized as a complete clip is marked by the incomplete clip (**I** indicator). The reconnection function allows you to reconnect related clips and restore the original clip.

### ◆ NOTE:

Incomplete clips occur under the following conditions.

- When the individual clip segments on each P2 card that make up the clip are copied separately.
- When the clip segments on each card that make up a clip recorded on multiple cards are separately copied to a hard disk drive and then copied back to a P2 card.
- When a 5-minute or longer DVCPRO HD clip (10-minute or longer DVCPRO50 and 20-minute or longer DVCPRO/DV clip) is copied to a hard disk drive and later written back to a P2 card.

- 1 Open the thumbnail screen.
- 2 Select the incomplete clips to reconnect.

### ◆ NOTE:

- Normally, thumbnails with the incomplete clip mark are usually grouped together.

- 3 Press the MENU button.
- 4 Use the cursor buttons to choose [OPERATION] – [RE-CONNECTION].



- 5 Select [YES] and press the SET button.
- 6 Press the MENU button to end processing.

### ◆ NOTE:

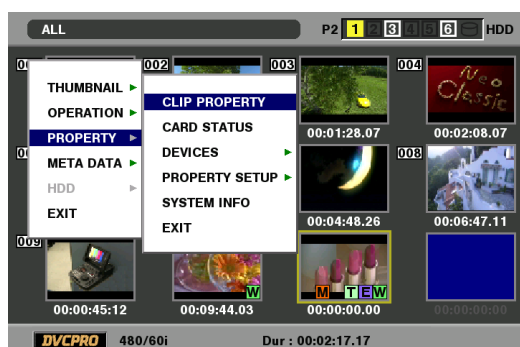
- When some but not all the clip segments in a clip that consists of three or more clip segments are reconnected, the incomplete clip mark will remain.

# Viewing and Repairing Clip Information

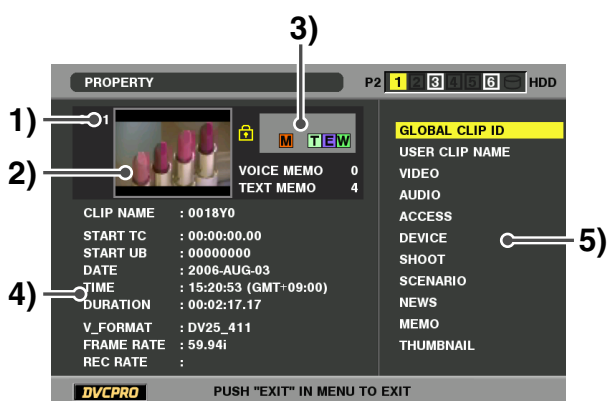
## Viewing Clip Information

Detailed clip information can be displayed on the screen.

- 1) Open the thumbnail screen.
- 2) Place the cursor on the desired clip
- 3) Press the MENU button.  
Or with the menu closed, hold down the SHIFT button and press the SPLIT button.
- 4) Use the cursor buttons to choose [PROPERTY] – [CLIP PROPERTY] and press the SET button



This displays information on the selected clip.



- 1) Clip no.
- 2) Thumbnail
- 3) Clip information

Indicates the number of indicators, inserted text memos and voice memos in a clip. The mark appears when the P2 card where the clip resides is write-protected.

### ◆ NOTE:

- Voice memo/Indicator  
Indicates that a voice memo has been attached to a clip. This indicator appears only in the clip property mode.
- This unit cannot record and play back voice memos.

- 4) Clip information

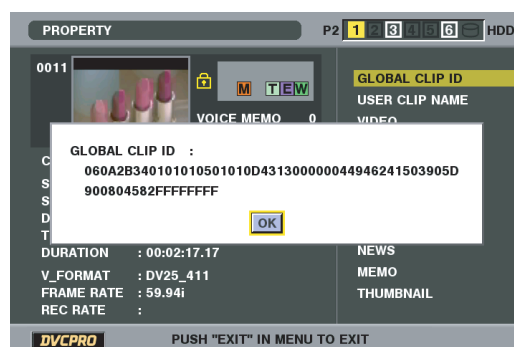
The following information appears.

CLIP NAME:	CLIP NAME
START TC:	Time code at start of recording
START UB:	User bit value at start of recording
DATE:	Date recorded
TIME:	Time at start of recording
DURATION:	Clip length
V_FORMAT:	Clip recording format
FRAME RATE:	Playback frame rate
REC RATE:	Recording frame rate (indicated for clips recorded using special recording functions on a camera recorder)

- 5) Clip metadata

This area shows more detailed information on a clip.

- 5) Browse the clip metadata as necessary.



Use the cursor buttons to select a metadata item and press the SET button to view the information.

GLOBAL CLIP ID:	Global CLIP ID (This is a unique number. There is no clip anywhere in the world with the same number.)
USER CLIP NAME:	The name a user assigns to a clip. This normally includes a GLOBAL CLIP ID.
VIDEO:	Video signal system (FRAME RATE, PULL DOWN, ASPECT RATIO)
AUDIO:	Audio channel system and other information (SAMPLING RATE, BITS PER SAMPLE)
ACCESS:	The date of the last update and other information (CREATOR, CREATION DATE, LAST UPDATE DATE, LAST UPDATE PERSON)
DEVICE:	Serial number of recording equipment and other information (MANUFACTURER, SERIAL NUMBER, MODEL NAME)
SHOOT:	Date when recording started and ended, etc. (SHOOTER, START DATE, END DATE, LOCATION, ALTITUDE, LONGITUDE, LATITUDE, SOURCE, PLACE NAME)
SCENARIO:	PROGRAM NAME, SCENE NO., etc. (program name, scene number, take number)
NEWS:	REPORTER, OBJECT and other information (reporter, purpose, object)
MEMO:	TEXT MEMO number, location, name and text content (NO., RECORDING LOCATION, person, text)

◆ **NOTE:**

- Offset is indicated in frame numbers from the start. During text memo display of thumbnails, the offset is converted to TC.
- While up to 1000 characters of text can be added only the first 100 characters will appear.
- Use the right and left cursor buttons to move text numbers.

THUMBNAIL:	Frame location and size (frame offset, height, width) of video that makes up the thumbnail
------------	--

**6** Press the MENU button or the EXIT button to end processing.

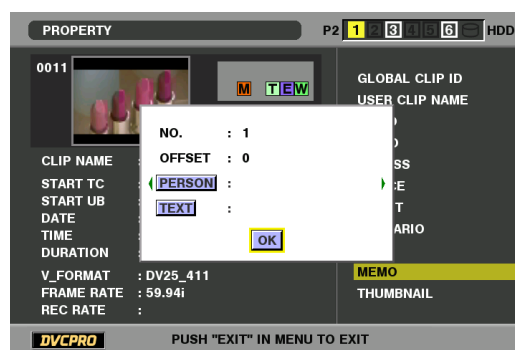
## Revising Clip Metadata

Use the steps below to revise clip metadata.

**1** Display clip metadata.

**2** Use the cursor buttons to select the metadata you want to revise and press the SET button.

Data that can be revised is indicated as "TEXT", like in the illustration below.



**3** Use the cursor buttons to move to the item you want to revise and press the SET button.

- The metadata revise screen (on-screen keyboard) appears.
- Use the on-screen keyboard to revise metadata.



◆ **NOTE:**


- Use the cursor buttons to move keyboard location, then press the SET button at the BS location.
- Use ◀▶ to move the insertion point one character to the right or left and ◀◀▶▶ to move it to the beginning or end.

## 4 Select [OK] after revising (or press the ENTRY button).

- This saves the revised metadata to the clip and the metadata display reappears.
- Select [EXIT] to cancel the entry and return to the previous display.

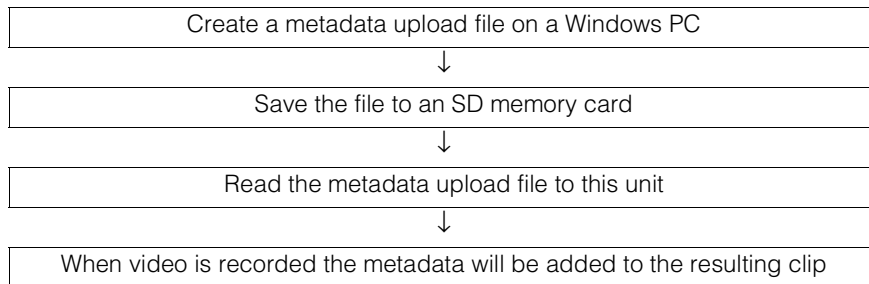
---

### ◆ NOTE:

- Latitude and longitude cannot be changed separately. To delete these entries, enter a blank for altitude.
- Note that the metadata of a clip marked  cannot be revised. Insert the P2 card with the remainder of the clip.
- Metadata to which a 100 character or larger memo has been attached cannot be revised.

# Attaching Metadata to Clips

A metadata upload file containing the name of the person who shot the video, the reporter, the shooting location or a text memo and other information can be saved to an SD memory card. This data file can be read and recorded as clip metadata.



## Preparing a Metadata Upload File

Use P2 viewer to create meta data upload files on a PC. P2 viewer allows you to use a PC for processing clips recorded on a P2 card. Download the latest version of P2 viewer from the URL given below.  
English: <https://eww.pavc.panasonic.co.jp/pro-av/>  
Install P2 viewer on a PC, create a metadata upload file and write it to an SD memory card.

### ◆ NOTE:

- Use the latest version of the P2 viewer.
- For details on how to create a metadata upload file, refer to the help function in P2 viewer.
- For details on SD memory cards, refer to the NOTE on page 147.

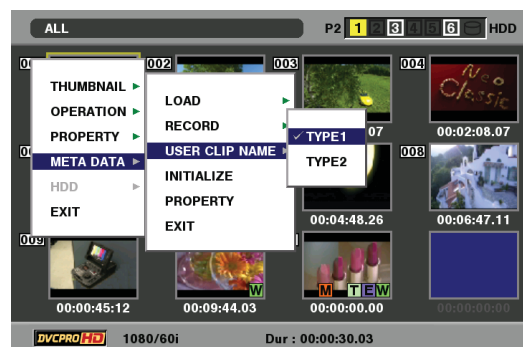
## Setup to Attach Metadata

Make the required settings to enable this unit to read the metadata upload file.

### Select Method for Recording the USER CLIP NAME

Set the method for recording the USER CLIP NAME.

- 1 Open the thumbnail screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to choose [META DATA] – [USER CLIP NAME].





- 4 Select [TYPE 1] or [TYPE 2] and press the SET button.

Recording method		USER CLIP NAME to be recorded
Use clip metadata	TYPE 1	Read metadata settings
	TYPE 2	Read metadata settings + COUNT value
Do not use clip metadata *	TYPE 1	Same as GLOBAL CLIP ID
	TYPE 2	Same as CLIP NAME

\* The metadata upload file has been read, but [META DATA] – [RECORD] is set to [OFF]

- 5 Press the MENU button to end processing.

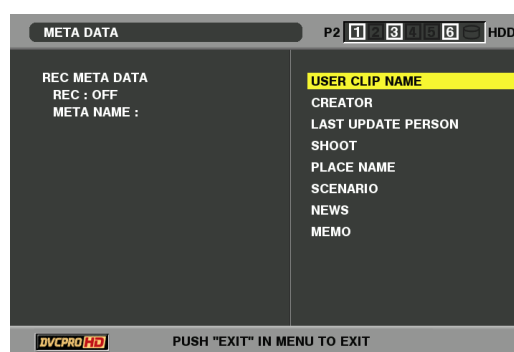
## COUNT Value

The count value is indicated as a four-digit number. When recording method "TYPE 2" is selected for the USER CLIP NAME in the clip metadata that is loaded, the COUNT value is incremented by 1 for each new recording and a new clip is generated.

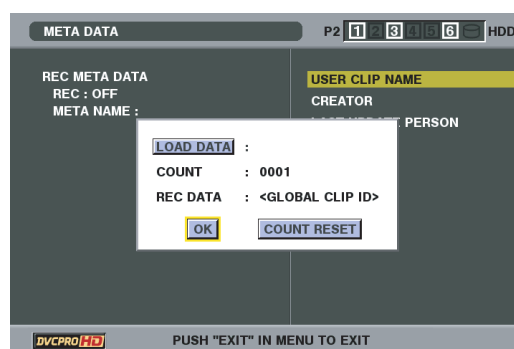
### ■ To reset the COUNT value

Use the following procedure to reset the COUNT value.

1. Open the thumbnail screen.
2. Press the MENU button.
3. Use the cursor buttons to choose [META DATA] – [PROPERTY] – [USER CLIP NAME] and press the SET button.



4. Use the cursor buttons to select [COUNT RESET] and press the SET button.



The COUNT value is reset to 1.

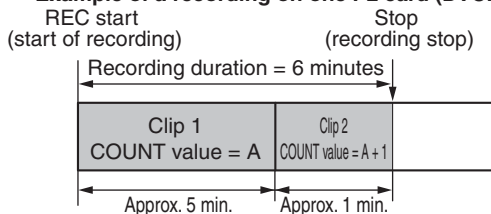
5. Press the MENU or EXIT button to end processing.

## ■ Incrementing the COUNT value of the USER CLIP NAME for clips exceeding 4 GB

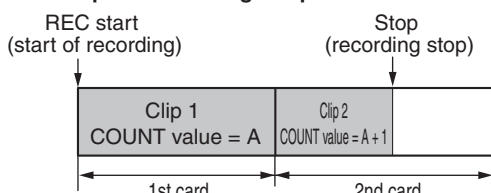
In the following case, one shot is recorded as multiple clips and the COUNT value is automatically incremented and recorded for each shot.

- When an 8 GB or larger P2 card is used in this unit and each continuous recording exceeds a preset time.
- For details, refer to “Dividing clips over 4 GB in length” (page 34)
- When one recording spans multiple cards.

### Example of a recording on one P2 card (DVCPRO HD):



### Example of recording a clip on two P2 cards:

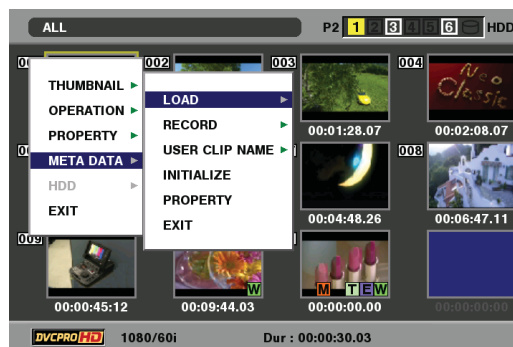


A P2 device will indicate the thumbnail and COUNT value of clip 1 when thumbnails and property of the clip are displayed.

## Loading Set Metadata Values

Use the following procedure to load metadata from an SD memory card.

- 1 Insert the SD memory card storing the metadata upload file.
- 2 Open the thumbnail screen.
- 3 Press the MENU button.
- 4 Use the cursor buttons to select [META DATA] – [LOAD] and press the SET button.  
The filename of the metadata upload file on the SD memory card appears.



### ◆ NOTE:

- When the file name is displayed, use the right cursor button to show the metadata name. Use the left cursor button to show the file name.

5 Use the cursor buttons to select the file to load and press the SET button.

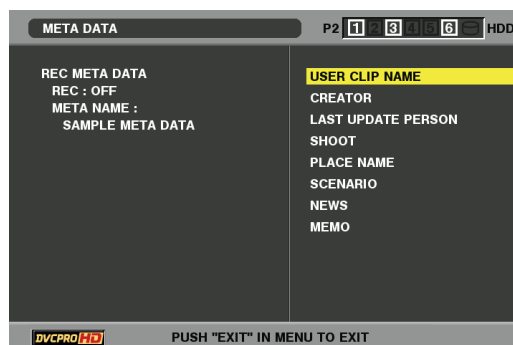
6 Select [YES] and press the SET button.  
The file is now loaded.

7 Press the MENU button to end processing.

## Checking and Revising Loaded Metadata

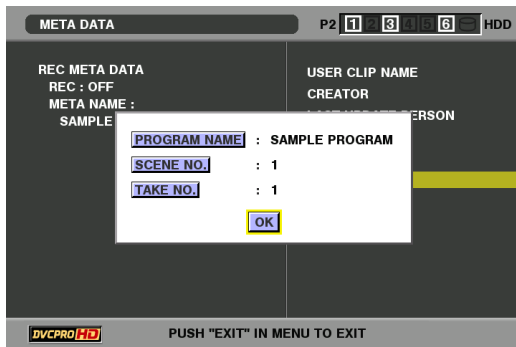
Use the following steps to check metadata loaded from an SD memory card.

- 1 Press the THUMBNAIL button.  
The thumbnail screen appears on the LCD monitor.
- 2 Press the thumbnail menu button and select [META DATA] – [PROPERTY] from the Thumbnail menu.  
The screen shown below appears.



- 3** Use the cursor buttons to move the pointer and press the SET button.

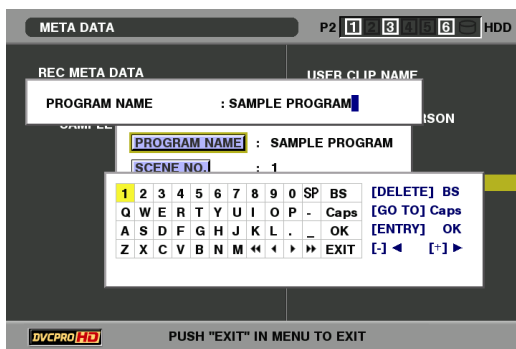
Use this function to check loaded metadata settings.



- 4** While viewing metadata settings, use the cursor buttons to move the cursor to the setting you want to change and press the SET button.

The on-screen keyboard appears. Make the required changes.

→For details, refer to “Using the On-screen Keyboard” (page 31).



◆ **NOTE:**

<Metadata types that can be set>

- Use the cursor buttons to select a metadata item and press the SET button to view the information.

USER CLIP NAME:	Name of user clip
CREATOR:	Creator
LAST UPDATE PERSON:	The person who last updated the data
SHOOT:	The person who shot
PLACE NAME:	Shooting location
SCENARIO:	PROGRAM NAME, SCENE NO., TAKE NO.
NEWS:	Name of the reporter, purpose of data collection, target of data collection
MEMO:	Name of the person who recorded the text memo and text memo data

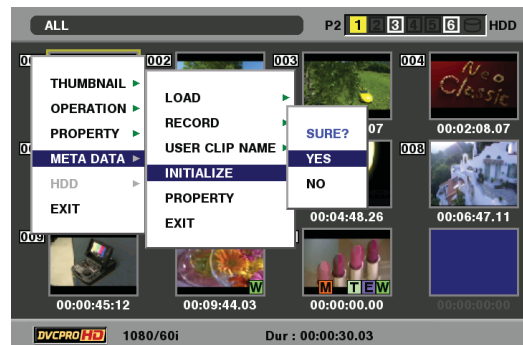
- Press the EXIT or SET button after confirming to close the window.
- Select [OK] after completing all changes.

- 5** Press EXIT to exit the metadata confirmation screen.

## Deleting Metadata

Use the following procedure to delete metadata stored in this unit.

- 1 Open the thumbnail screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to select [META DATA] – [INITIALIZE] and press the SET button.



- 4** Select [YES] in the confirmation screen and press the SET button.

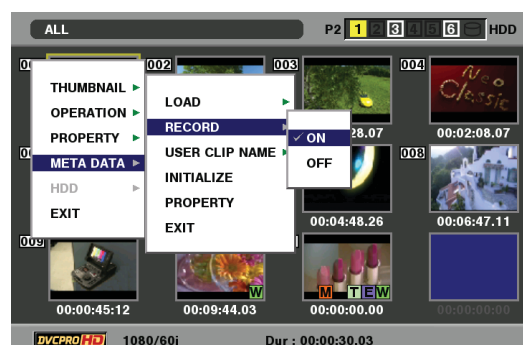
This deletes the metadata.

- 5** Press the MENU button to end processing.

## Recording Clips Containing Metadata

This procedure attaches the loaded metadata to clip that is recorded.

- 1 Open the thumbnail screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to choose [META DATA] – [RECORD].



#### **4** Select [ON] and press the SET button.

This setting records the loaded metadata simultaneous with video recording. The USER CLIP NAME is attached to metadata as specified by the recording method.

#### **5** Press the MENU button to end setup.

#### **6** Record video on this unit.

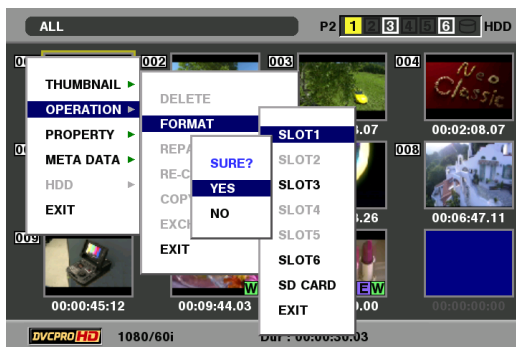
---

◆ **NOTE:**

- When [OFF] is selected in step 4, no metadata is attached to the clip.

# Formatting P2 Cards

- 1 Open the thumbnail screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to choose [OPERATION] – [FORMAT] – [SLOTn] (the number of the P2 card slot containing the card to format) and press the SET button.



- 4 Select [YES] and press the SET button.  
The card is now formatted.

◆ **NOTE:**

- To cancel formatting, select [NO] and press the SET button.

- 5 Press the SET button when the completion message appears.

◆ **NOTE:**

- Repeat the procedures in steps 3 to 5 to format P2 cards in other P2 card slots or SD memory cards.

- 6 Press the MENU button to end processing.

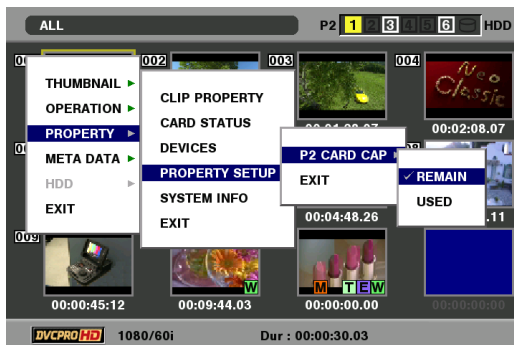
# Checking Card Status

Use the following procedure to display P2 card slot status and P2 card usage and other card information on the screen for checking.

## Selecting Information to Display

Select whether remaining capacity or used capacity should appear in the P2 card information.

- 1 Open the thumbnail screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to choose [PROPERTY] – [PROPERTY SETUP] – [P2 CARD CAP].



- 4 Use the cursor buttons to select an item and press the SET button.

---

REMAIN: Remaining capacity indication (initial value)

USED: Used capacity indication

---

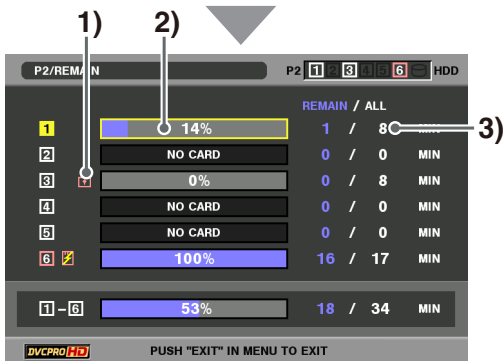
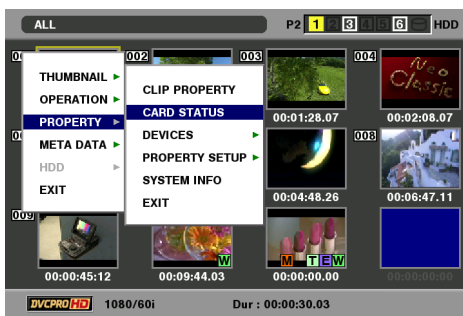
MEMO: An underlined setting indicates a factory preset value.

- 5 Press the MENU button to end processing.

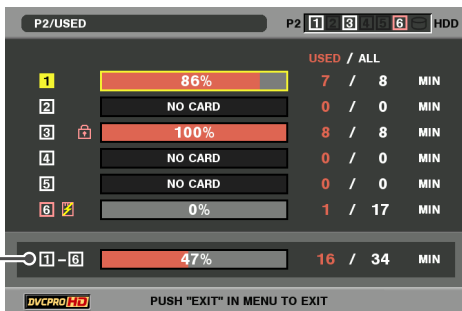
## Displaying Card Status Information

After completing the settings described on the previous page, you can use the procedure described below to check the status of P2 cards in P2 card slots.

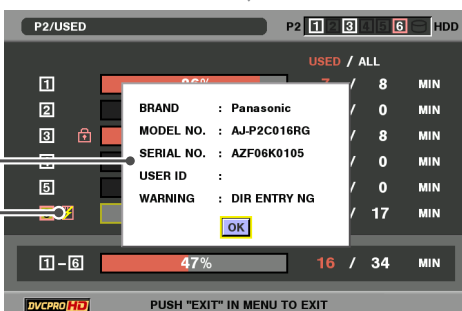
- 1) Open the thumbnail screen.
- 2) Press the MENU button.
- 3) Use the cursor buttons to choose [PROPERTY] – [CARD STATUS] and press the SET button to display P2 card status.



or




4)



5)

6)

### 1) Write protect mark

A write-protected P2 card is indicated by the  mark displayed here.

### 2) P2 card status

The remaining free memory on the P2 card is displayed here in the form of a bar meter and a percentage value.

Memory used on the P2 card is also displayed in the form of a bar meter and a percentage value.

The following status information may also appear depending on card status.

FORMAT ERROR:	An unformatted P2 card is inserted.
NOT SUPPORTED:	This unit does not support the inserted card.
NO CARD:	No P2 card has been inserted.

### 3) P2 card remaining memory (or memory used)/total memory

Indicates P2 card remaining free memory (or memory used)/total memory in time left in minutes. Fractions of a minute are rounded off on the display so that the sum total of the remaining memory available for recording on each P2 card may not tally with the figure for the total memory.

### 4) Slot remaining memory (or memory used) total

The figure obtained by totaling the remaining free memory on the six P2 slots is shown here.

#### ◆ NOTE:

- Free space of write-protected P2 cards is not included in the free space total.

### 5) Detailed P2 card status

Select the slot of the P2 card whose status you want to check and press the SET button to view the P2 card model number and other detailed information.

Press the SET or EXIT button again to close the detailed information screen.

## 6) Card warning messages

This warning appears when the following P2 cards are inserted.

- [RUN DOWN CARD]

The card has been overwritten the maximum number of times.

- [DIR ENTRY NG CARD]

Directory structure does not conform to standard specifications.

Use Detailed P2 Card Status for more information.

**4** Press the EXIT button to end processing.



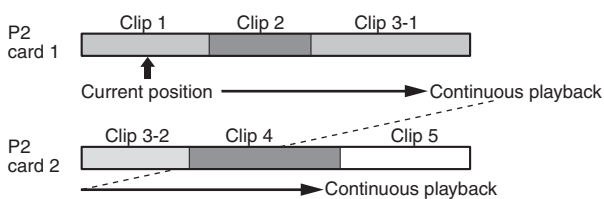
# Using Play List

## Play List Function

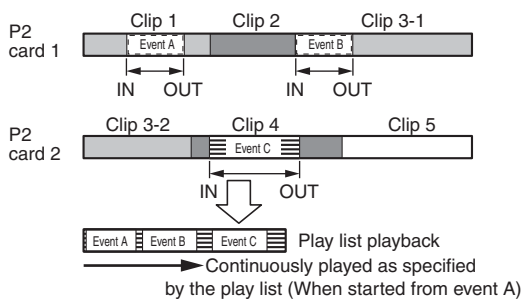
The play list function allows you to create lists (play lists) that register clip sections recorded on P2 cards to continuously play them back in list order. List editing is fast and efficient since no actual data is involved.

- Do not use and register multiple copies of a clip at the same time since that may result in incorrect recognition.

In normal playback, playback starts from the starting point and goes on until the last clip.



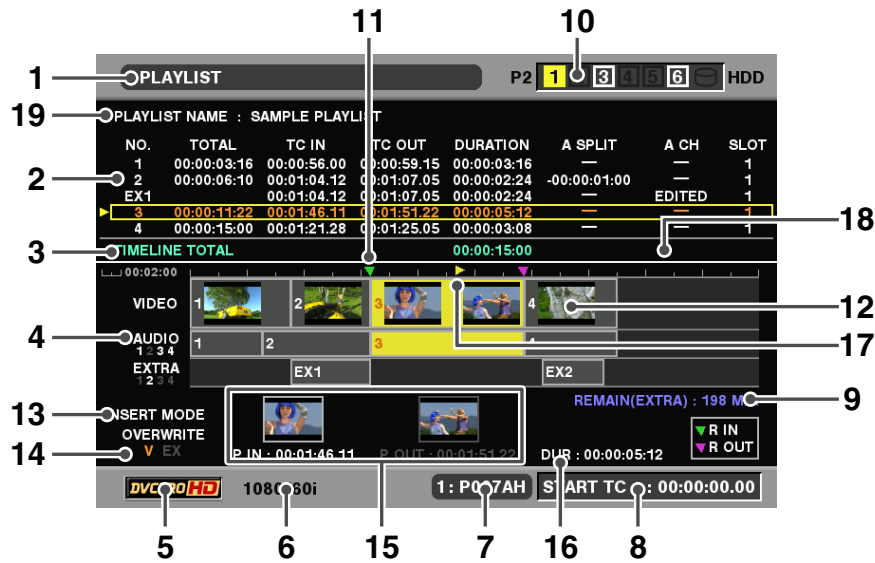
In a play list playback, the user first creates a play list that defines the IN points (start position) and OUT points (end position) of the clip segments that should be played. The subsequent play list playback will play only the sections specified on the play list as a single continuous section.



### ◆ NOTE:

- The play list function is accessed by opening the play list screen (press the PLAY LIST button to turn it on).
- The play list is stored in the play list area of memory in this unit and can always be accessed from the play list screen. Play list can also be stored on a P2 card. To save the voice-over audio data to the same P2 card as the play list, first save the play list to a P2 card.
- The processing activities entered on each line in the play list screen to run the play list are called events.
- During play list playback, only formats set as edit formats can be played and registered.
- Do not add a 24PN clip created in non-linear editing to a play list. Editing points may not be registered correctly.
- The play list stores the playback volume set during audio overwriting and uses this volume setting during playback. For this reason, the sound volume cannot be adjusted during play list playback.

# Play List Screen Names and Functions



## 1. Display status

The following type of event screens are displayed.

PLAYLIST:	Event list
EVENT PROPERTY:	Detailed event information
P2 / USED:	Media information (amount of space used)
P2 / REMAIN:	Media information (amount of free space)

## 2. Play list

The play list shows a list of events. Up to 100 events (up to 100 audio events can also be added). The current cursor position is shown by a yellow frame. The selected event is shown by blue characters. The overwrite edit mode uses orange to indicate unfinalized status.

NO:	Event serial number
TOTAL:	Total time from event 01
TC IN:	Time code at IN point
TC OUT:	Time code at OUT point
DURATION:	Event length
A SPLIT:	Split amount at audio IN point
A CH:	Indicates channel status after editing channels using the EDIT AUDIO CH menu.
-	No change
EDITED:	Channels have been edited
NONE:	No corresponding channels

SLOT:	Number of P2 card slot with card storing event clip
-------	---

The number of the first and subsequent events that cannot be played back are indicated in red. Play lists created on the AJ-SPD850 can be loaded but not edited. The file name is indicated in gray.

## 3. Total play list time

Indicates the total play time of all events.

## 4. Time line display

The events appear in the time line around the event at the cursor position. Use the TRIM+/- button to zoom in (right) and to zoom out (left).

VIDEO:	Video time line
AUDIO:	Audio time line
1 2 3 4:	Channel numbers for channels other than EXTRA audio
EXTRA	EXTRA audio time line
1 2 3 4:	Channel numbers set using setup menu No.792 (A DUB CH) in the SETUP menu.

## 5. Record mode

## 6. System format

→Refer to "Thumbnail Screen Names and Functions" (page 37).

## 7. Filename

Shows the number of the P2 card slot where the current play list is stored and its filename.

P2 card slot number:	Filename
P2 cards slot and file name are displayed in white:	Normal
Filename is gray:	The file can be loaded but not edited. To edit such a file, store it on a P2 card to enable editing.
P2 card slot number is red:	The card storing the saved file is not inserted. The file stored on a P2 card cannot be found.

## 8. Start TC

Displays the start time code value for changing the time code during playback.

## 9. REMAIN(EXTRA)

Indicates the remaining time available for voice-over recording.

A play list not saved to a P2 card is indicated in gray and has no time indication.

## 10. P2 card slot status

Displays P2 card and USB hard disk status.

→Refer to “Thumbnail Screen Names and Functions” (page 37).

## 11. Play list IN and OUT point indication

Indicates the IN and OUT points of the play list (recorder) in ▽ (green) and ▼ (pink), respectively during overwrite mode. The indicators do not appear if no IN/OUT points is registered. When the IN and OUT points of the play list is not registered (not yet finalized, for example), ▼ (gray) is used.

## 12. Event IN/OUT point thumbnail

Indicates the thumbnails at the event IN/OUT points. This indication appears only when there is enough space in the timeline.

## 13. INSERT mode

Indicates currently set insert mode (selected by the [SETTING] – [INSERT MODE] menu).

INSERT:	Insert edit mode Adds and edits events.
OVERWRITE:	Overwrite mode Overwrites the track set by the INPUT TRACK menu at the designated position in the play list.

## 14. Overwrite track indication

Indicates INPUT menu settings in overwrite edit mode.

V:	Overwrites VIDEO and AUDIO.
EX:	Overwrites EXTRA
V EX:	Overwrites VIDEO, AUDIO and EXTRA.

## 15. Source IN/OUT points

Indicates source (player) IN point, OUT point, TC and thumbnails. Items that are not registered are hidden.

## 16. Duration indication

Shows the length of events for which overwrite edit is in unfinalized status.

## 17. Playback location

Indicates the current playback location by ▷ (yellow). Next playback starts from this location.

## 18. Scale indication

Indicates the timeline scale. The time for one graduation is indicated on the left.

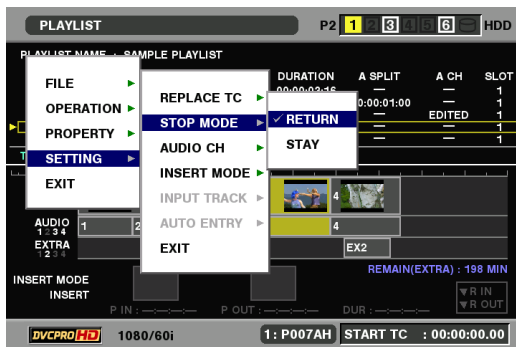
## 19. PLAYLIST NAME

Names can be attached and to play lists and the name can be displayed.

## Stop Mode Setup

You can set whether pressing the STOP  button during play list playback should return you to the play list after playback or not. Use the following procedure to make the desired setting.

- 1 Open the play list screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to choose [SETTING] – [STOP MODE].
- 4 Select [RETURN] or [STAY] and press the SET button.



---

**RETURN:** A return is made to the play list screen when the STOP  is pressed (or when an automatic stop occurs at the start or end of all events). The cursor position moves to the event where the button was pressed.

---

**STAY:** A return to the play list screen is not made and a still picture is output when the STOP  button is pressed (or when an automatic stop occurs at the start or end of all events).  
To return to the event list after making this setting, press the PLAY LIST button or the EXIT button.

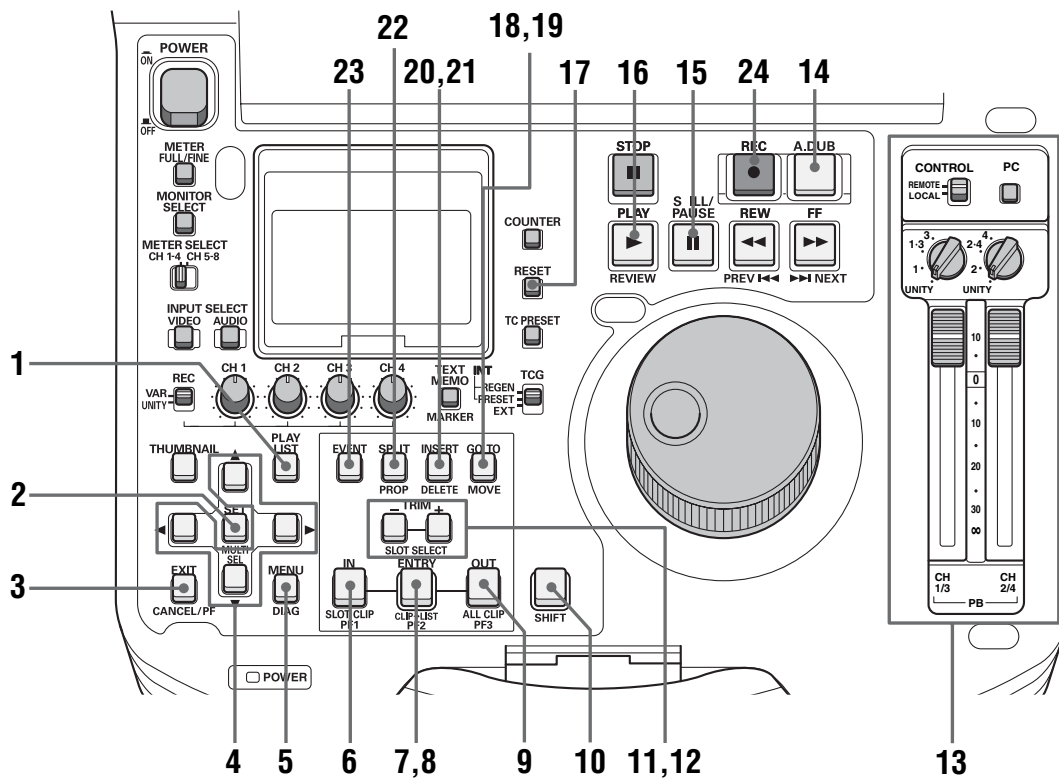
---

- 5 Press the MENU button to end setup.

◆ **NOTE:**

- During remote play list playback using a 9-pin cable, it is recommended to set to STAY.

# Buttons Used in Play List Operations



## 1. PLAY LIST button

Press to switch to play list mode. This button lights in the play list mode.

In the stop mode or when thumbnails are displayed, press this button to open the play list screen.

To exit the play list mode, press this button (which is lit), the light goes out and the stop mode reappears. You cannot switch to the PLAY LIST mode from the USB mode.

## 2. SET/MULTI SEL button

Use to make single or multiple selections. First press the SET button to select an event. Then move the cursor and hold down the SHIFT button while pressing this button to select all events from the first selected event to the event at the cursor position.

Characters for the selected event are highlighted in blue.

## 3. EXIT/CANCEL button

### • EXIT button

This button performs the same function as EXIT in a menu display.

### • CANCEL button

To cancel all selected events and release items in unfinalized status in the overwrite edit mode, hold down the SHIFT button and press the EXIT button.

## 4. ▲▼◀▶ Cursor buttons

In the play list, press this button to move the play list and time line pointer location.

Use the right and left buttons to move the timeline horizontally. Use the up and down buttons to move the event list up and down.

Hold down the SHIFT button and press the ▲/▼ buttons to move the cursor to the beginning/end of an EVENT.

## 5. MENU/DIAG button

Press to open the MENU, press again to close it and return to the previous screen.

## 6. IN button

Pressing the IN button will show the time code value for the IN point currently set. (In the playback screen)

### 10.SHIFT + 6.IN buttons

In the overwrite edit mode, hold down the SHIFT button and press the IN button to change the P IN (player) and R IN (recorder) points. Each press of the button changes the indication between P IN → R IN → OFF. Use the 12.TRIM +/- button to change the time code as necessary. Press 7. [ENTRY] (or SET) button to finalize all changes. (When the play list is displayed in overwrite edit mode.)

### 6.IN + 9.OUT buttons

Pressing the IN and OUT buttons simultaneously will show the duration between the IN and OUT points. If an OUT point has not been registered, it will show the duration up to the current location. (In the playback screen)

### 10.SHIFT + 6.IN + 9.OUT buttons

Holding down the SHIFT button and pressing the IN and OUT buttons will show the total time (TOTAL DURATION) for all events. (In the playback screen)

For details on other operations, refer to the descriptions of 7. ENTRY button, 12. TRIM+ / – button, 17. RESET button and 19. GO TO button.

## 7. ENTRY button

### 7.ENTRY + 16.IN / 9.OUT buttons

During insert editing in the insert mode, hold down the ENTRY button and press the IN or OUT button where you want to register an IN or OUT point in the event registration/revision mode (and the EVENT button is on or flashes). When an OUT point has been registered in a new event, it automatically becomes possible to register a new event (auto event increment function).

Registering an OUT point but no IN point in a clip automatically makes the beginning of that clip the IN point.

In overwrite editing, selecting three of the four IN and OUT points in a play list and in an overwriting video will register the event as an unfinalized event.

The playback location can be registered as an IN or OUT point also in the play list.

### 7.ENTRY + 22.SPLIT buttons

Use these buttons for splitting audio. In the event register/edit mode (when the EVENT button is on), hold down the SPLIT button and press the ENTRY button.

The location where the button was pressed will become the audio split IN point.

## 8. CLIP → LIST button

Use this button to import a clip selected in the thumbnail screen into the play list. Select a clip in a thumbnail display (multiple clips can be selected) and switch to the play list display. Hold down the SHIFT button and press the ENTRY button and the beginning of the clip at the cursor position in the play list becomes the IN point and its end point becomes the OUT point.

## 9. OUT button

Pressing the OUT button will show the time code value for the registered point. (In the playback screen)

### 10.SHIFT + 9.OUT buttons

In the overwrite edit mode, hold down the SHIFT button and press the OUT button to change the P OUT (player) and R OUT (recorder) points. Each press of the button changes the indication between P OUT → R OUT → OFF. Use the 12. TRIM +/– button to change the time code as necessary. Press 2.SET or 7.ENTRY after completing all changes. (When the play list is displayed in overwrite edit mode)

For details on other operations, refer to the descriptions of 7. ENTRY button, 12. TRIM+ / – button, 17. RESET button and 19. GO TO button.

## 10. SHIFT button

### 11. + / – button

In the play list, press this button to zoom in (+) or zoom out (–) the time line.

### 12. TRIM + / – buttons

Use these functions to change play list events. Select the event you want to change in the play list, hold down the IN, OUT and SPLIT buttons and press the TRIM+/- button to change the color of the IN, OUT and SPLIT points. Use this button to increment (+) and decrement (–) the IN, OUT or SPLIT point one frame at a time. Then press ENTRY to return to the original color and apply the change.

---

#### ◆ NOTE:

- At a 24PN frame rate, the frame rate can be changed in multiples of 4 frames.

## 13. UNITY/VAR/channel select switches and audio playback level controls

- Use to select playback signal channels and perform level control during audio level adjustment and voice-overs.

---

#### ◆ NOTE:

- Levels are not adjusted during play list playback.

## 14. A. DUB button

Use to make voice-overs and to copy to EXTRA.

→For details, refer to “Simplified Voice-Over” (page 88).

## 15. STILL/PAUSE button

## 16. REVIEW button

To review all events at the cursor position, hold down the SHIFT button and press the PLAY button. Playback starts 3 s before the IN point and stops 1 s after the OUT point.

Any unfinalized events are also previewed in the overwrite edit mode regardless of cursor location.

Thus all unfinalized events are played back.

## 17. RESET button

### 17.RESET + 6.IN / 9.OUT / 22.SPLIT buttons

In the event register/edit screen or in the overwrite edit player/recorder screen, hold down the IN, OUT or SPLIT button and press the RESET button to delete the IN, OUT or SPLIT point of the selected event. (The SPLIT point is available also in the play list.) Pressing the RESET button when trimming R IN/OUT or P IN/OUT point (SHIFT + IN/OUT) deletes the registered points.

### 10.SHIFT + 17.RESET buttons

In the play list screen, hold down the SHIFT button and press the RESET button to create a new play list file (fulfills the same function as [FILE] – [NEW]).

## 18. MOVE button

Use this function to move an event to another line while the play list is displayed. Use the SET button to select an event you want to move when the play list is displayed. Then move the cursor to the line you want to move the event to and press this button to move the selected event to the location right before the cursor.

## 19. GO TO button

### 19.GO TO + 6.IN / 9.OUT / 22.SPLIT buttons

Use these buttons in the event register/edit screen and in the overwrite edit player/recorder screen (the EVENT button blinks) to locate the IN, OUT and SPLIT points. During normal playback, still playback and other playback operations, hold down the IN (OUT or SPLIT) button and press the GO TO button to move to the IN (OUT or SPLIT) point and resume playback from there.

In the overwrite edit mode, the playback location (▼ in yellow) can be moved to the IN or OUT point of an event at the cursor location in the play list.

## 20. DELETE button

Use this button to delete events when the play list is displayed. Place the cursor on the event you want to delete and press the SET button to select it. Then hold

down the SHIFT button and press the INSERT button to delete the selected event.

## 21. INSERT button

Insert editing in the insert mode allows you to enter new events between existing play list events. Place the cursor on the event you want to insert and press this button to engage the event register mode and insert the event while viewing the video of the event. During overwrite editing in the insert mode, you can select the overwriting segment while viewing the video of overwriting event (player side).

Press this button again or the EVENT button to return to the play list screen.

## 22. SPLIT button

### 10.SHIFT + 22.SPLIT buttons

Holding down the SHIFT button and pressing the SPLIT button in the play list displays detailed event information at the cursor.

For details on other operations, refer to the description of 7. ENTRY button, 12. TRIM+ / – button and 17. RESET button.

## 23. EVENT button

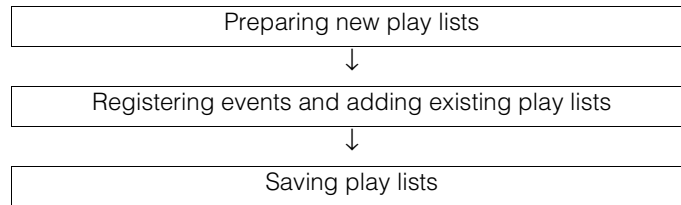
Use to open the event register/edit mode when the play list is displayed. At this time the screen shows video.

## 24. REC button

Use the REC button in the overwrite edit mode to finalize any unfinalized events. When there are no overwritten unfinalized events, the event at the cursor can be turned into an overwritten unfinalized event (recalled).

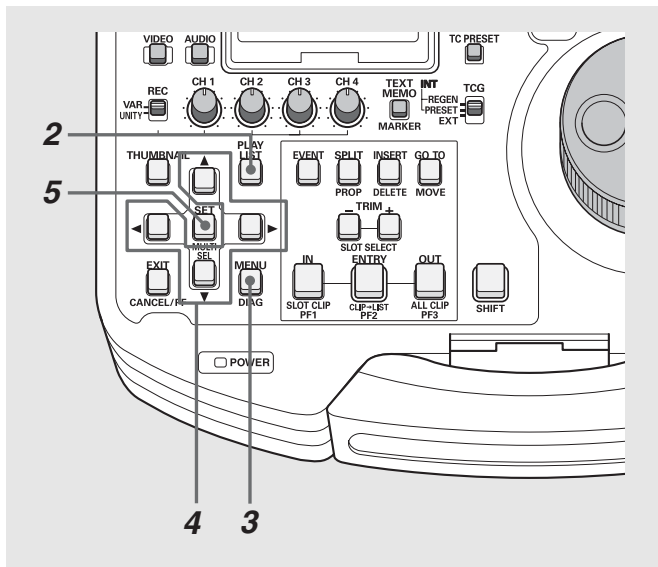
# Creating Play Lists

The workflow for creating a play list is given below. A play list can be up to 24 hours long.



## Preparing New Play Lists

This section describes how to delete a play list stored in the play list area of this unit and how to prepare a new play list.



### 1 Select an edit format in the setup menu.

- Select an edit format. The unit will then be able to play back only the selected format.
- Select playback channels for added audio.

#### ◆ NOTE:

The settings in the following setup menus and play list menu determine the edit format.

- 020 SYS FORMAT (→Refer to page 112.)
- 024 REC FMT(SD) (→Refer to page 112.)
- 026 PLY LST FMT (→Refer to page 112.)

The following setup menu settings determine the added audio settings.

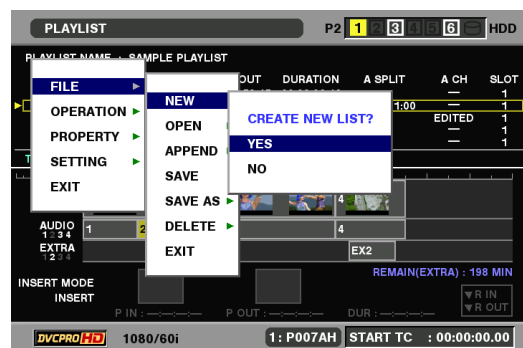
- 792 A DUB CH (→Refer to page 125.)
- 793 A DUB PB MIX (→Refer to page 125.)

### 2 Open the play list screen.

### 3 Press the MENU button.

### 4 Use the cursor buttons to choose [SETTING] – [INSERT MODE] and press the SET button. This selects INSERT and engages the insert edit mode.

### 5 Use the cursor buttons to choose [FILE] – [NEW].



#### ◆ NOTE:

- Holding down the SHIFT button and pressing the RESET button performs the same function as [FILE] – [NEW].

### 6 Select [YES] and press the SET button.

This deletes the open play list and displays a new play list without any events.

#### ◆ NOTE:

- Be sure to choose [FILE] – [NEW] after changing the edit format in the setup menu. Otherwise the edit format does not change.



## Audio Channel Replacement During Editing

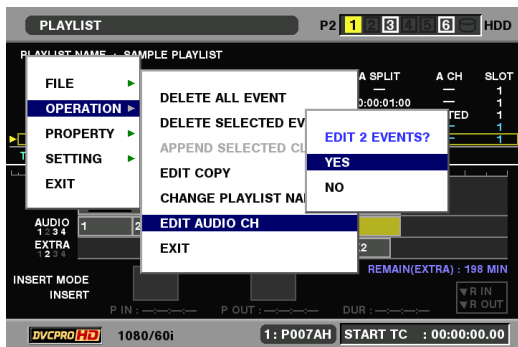
Follow the steps below to replace audio channels after event registration.

- 1 Select one or multiple events whose channels you want to replace in the play list screen.
- 2 Press the MENU button, use the cursor buttons to choose [SETTING] – [AUDIO CH] and press the SET button.
- 3 Select the channels that will be replaced.  
Example: Make the following registration to switch CH1 and CH2 locations.  
[AUDIO CH]-[CH1]=CH2  
[CH2]=CH1  
[CH3]=CH3  
[CH4]=CH4

### ◆ NOTE:

- Select [SETTING] – [AUDIO CH] – [RESET] to return channel settings to their factory defaults.

- 4 Press the MENU button, use the cursor buttons to choose [OPERATION] – [EDIT AUDIO CH] and press the SET button.  
Then select [YES] to switch channel locations.



### ◆ NOTE:

- A channel switch is indicated by "EDITED" in the A CH field. The status after the switch also shows up in the event property.  
→ For details, refer to "Viewing Event Information" (page 91).

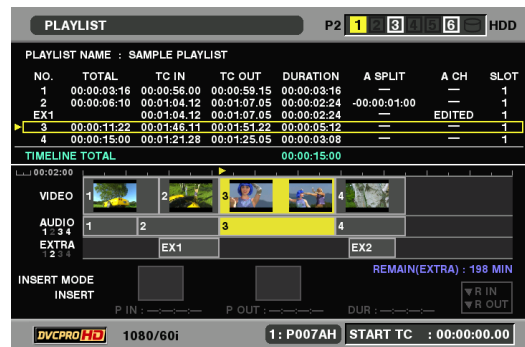
## Registering Events for Selected Clips

Use the following procedure to add selected clips to the play list. This operation registers the start of a clip as the IN point and its end as the OUT point.

- 1 Select the clip you want to register in the play list from the thumbnail screen.



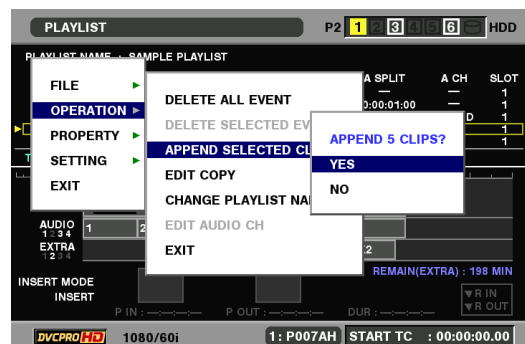
- 2 Open the play list screen.



- 3 Use the cursor buttons to select the location where you want to add the clip.

- 4 Press the MENU button.

- 5 Use the cursor buttons to choose [OPERATION] – [APPEND SELECTED CLIP].

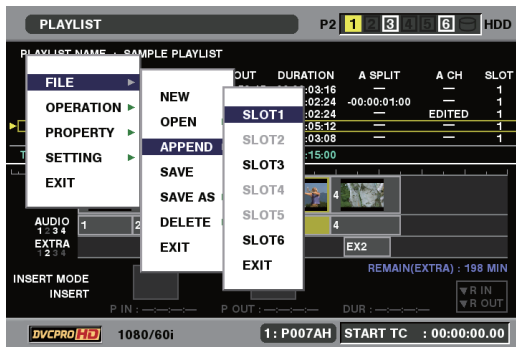




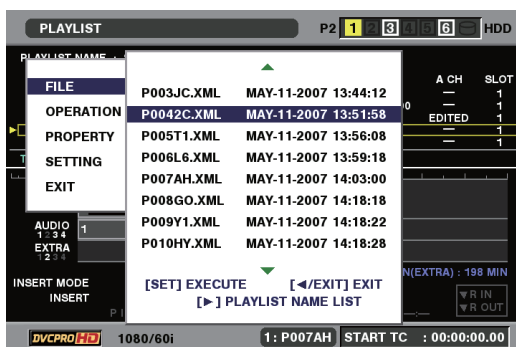
## Importing and Adding to Existing Play List Files

This section describes how to import play lists stored on a P2 card and how to add an event at the cursor location.

- 1 Open the play list screen.
- 2 Use the cursor buttons to choose the location where you want to insert the event.
- 3 Press the MENU button.
- 4 Use the cursor buttons to choose [FILE] – [APPEND].



- 5 Use the cursor buttons to select the number of the P2 card slot containing the play list you want to import and press the SET button.
- 6 Select a file in the file import screen and press the SET button.



The specified play list event is added at the cursor location.

### ◆ NOTE:

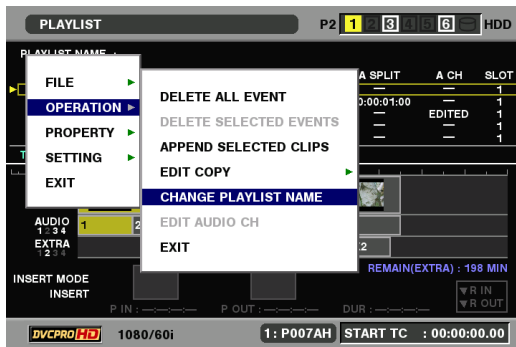
- You cannot import a play list file whose format differs from the format of the current play list.
- If the number of selected events exceeds 100, the events that exceed the limit will not be imported.
- Press the right cursor button (▶) in the file import screen to view the playlist name. Press the left cursor button (◀) to view file names.

# Saving Play Lists

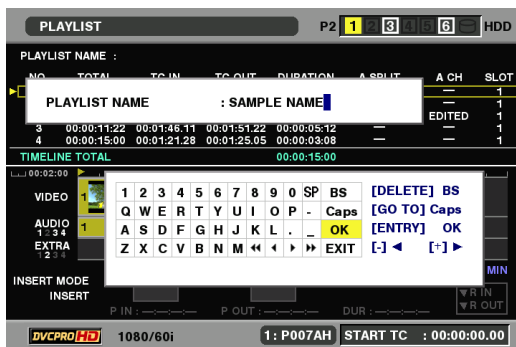
## Naming Play Lists

Use the steps below to name play lists.

- 1 Open the play list screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to choose [OPERATION] – [CHANGE PLAYLIST NAME] and press the SET button.



- 4 Use the on-screen keyboard to enter a name and press OK.



- 5 Close the menu and register the name in PLAYLIST NAME.

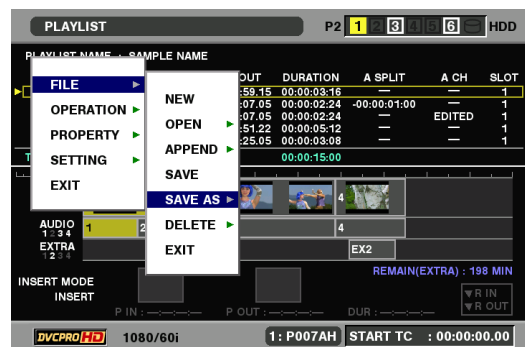
◆ NOTE:

- The file name must be saved using [FILE] – [SAVE] or [FILE] – [SAVE AS].

## Saving a Play List to a P2 Card

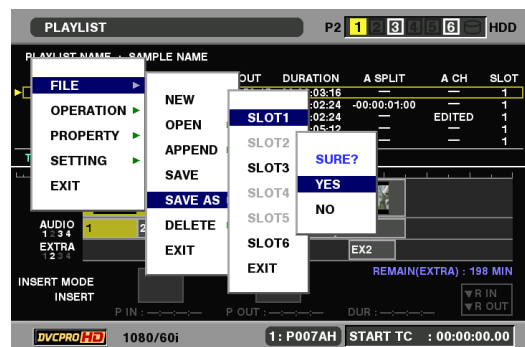
Use the steps below to save a play list stored by the unit in the play list area of memory to a P2 card.

- 1 Open the play list screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to choose [FILE] – [SAVE AS].



- 4 Use the cursor buttons to select the number of the P2 card slot that will store the file and press the SET button

- 5 Check the file name in the save file screen, choose [YES] and press the SET button.



This saves the play list.

---

◆ **NOTE:**

- The filename is automatically generated and cannot be changed. Changing the filename on a PC will make it impossible to load.
- Updated play list files cannot be loaded by older versions or devices. Store old versions of the play list in the unit before using them. They cannot be edited in the form they are loaded.

# Editing Play Lists

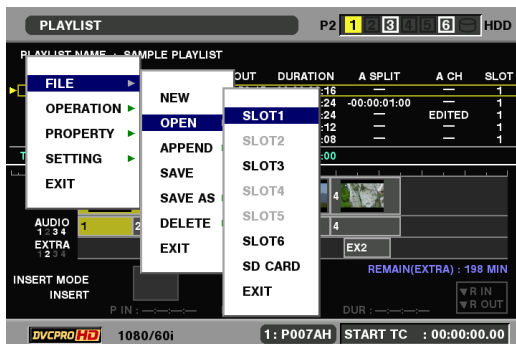
Play lists can be edited in a number of different ways.

## Opening an Existing Play List File

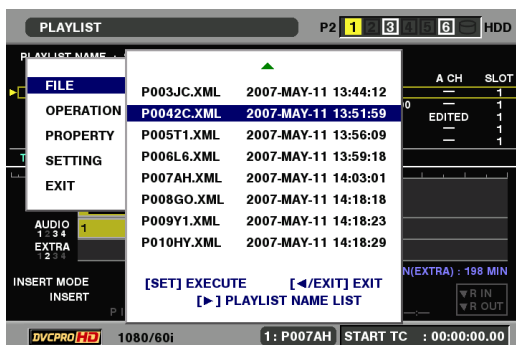
Open the play list screen to view the play list in the play list area of memory in this unit.

The procedure below describes how to load a play list stored on a P2 card or SD memory card to replace the play list in the play list area of memory in this unit.

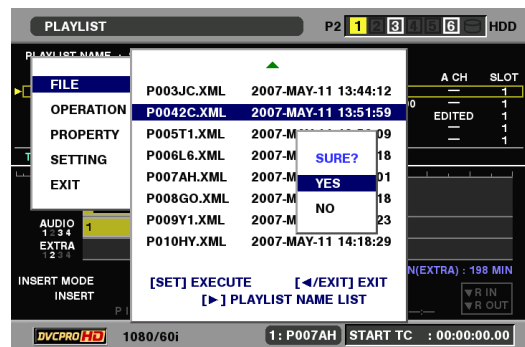
- 1 Open the play list screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to choose [FILE] – [OPEN].



- 4 Use the cursor buttons to select the number of the P2 card slot or [SD CARD] containing the play list you want to import and press the SET button.
- 5 Select the file to import in the file import screen and press the SET button.



- 6 Select [YES] in the confirmation screen and press the SET button



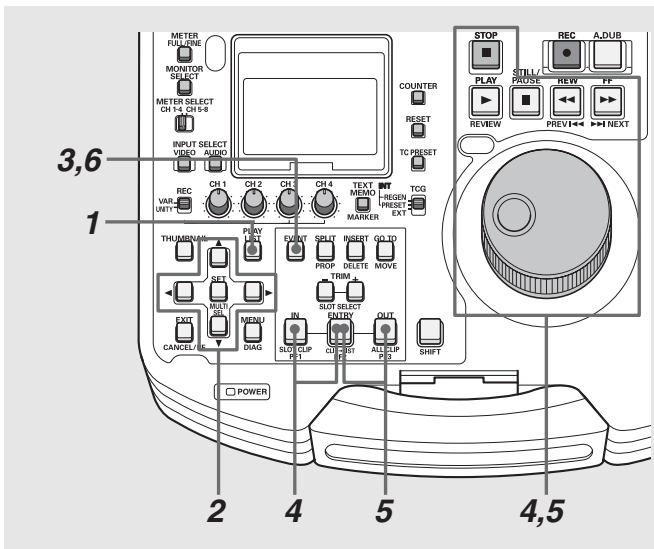
The play list is now loaded.

### ◆ NOTE:

- If a play list file that contains more than 100 events is opened, the event data exceeding 100 is not imported and the play list became a read-only file.
- Play lists created on the AJ-SPD850 cannot be edited on this unit and are opened as a read-only file. To edit such play lists, save them on this unit.
- In the file import screen, press the right cursor button (▶) to view the play list name. Press the left cursor button (◀) to view file names.

## Changing Event IN and OUT Points

You can change the IN and OUT points for a play list event during video playback.



**1** Open the play list screen.

**2** Select the event you want to change.

**3** Press the **EVENT** button.

This activates the event edit mode.

**4** Register a new **IN** point.

Use the operation buttons or search dial to look for a location to start an event. Then hold down the **IN** button and press the **ENTRY** button.

**5** Register a new **OUT** point.

Use the operation buttons or search dial to look for a location to end an event. Then hold down the **OUT** button and press the **ENTRY** button.

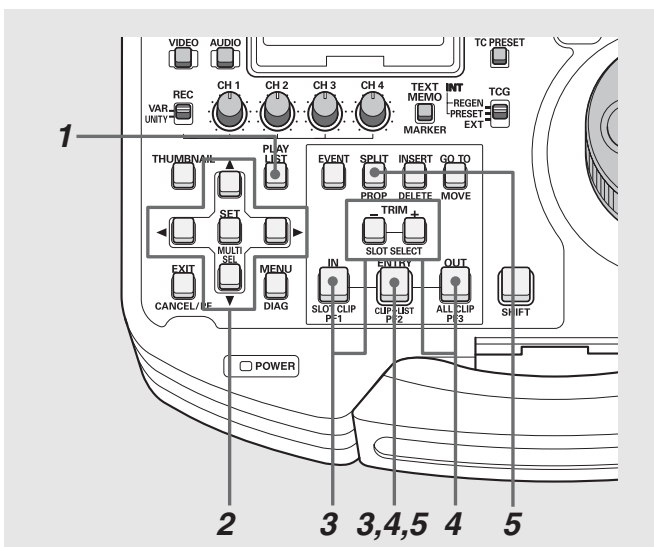
**6** Press the **EVENT** button to end the change operation.

◆ **NOTE:**

- Steps 4 and 5 can be handled as alternatives, you do not have to carry out both steps.
- If the new **IN** point comes after an already registered **OUT** point, the existing **OUT** point will be reset. A return to the play list screen will show that the **OUT** point has automatically been changed to the end of the clip.
- If the new **OUT** point comes before an already registered **IN** point, a return to the play list will show that the **IN** point of that clip has automatically been changed and registered at the beginning of the clip.
- An event with a voice-over cannot be modified. Delete the voice-over before modifying the event.
- The changed content will be neglected if the unit is turned off during change of an event from video.

## Trimming Events

You can change **IN** and **OUT** points for events in frame increments (in 4-frame increments at 24PN).



**1** Open the play list screen.

**2** Select the event you want to change.

**3** Use the cursor buttons to change the **IN** point.

Hold down the **IN** button and press the **TRIM+** button or the **TRIM-** button. The **IN** point is incremented or decremented in frame increments (in 4-frame increments at 24PN).

Press the **ENTRY** button to finalize.

**4** Change the **OUT** point.

Hold down the **OUT** button and press the **TRIM+** button or the **TRIM-** button. The **OUT** point is incremented or decremented in frame increments (in 4-frame increments at 24PN).

Press the **ENTRY** button to finalize.

**5** Change the **SPLIT** point

Hold down the **SPLIT** button and press the **TRIM+** or the **TRIM-** button. The split point is incremented or decremented in frame increments (in 4-frame increments at 24PN).

Press the **ENTRY** button to finalize.

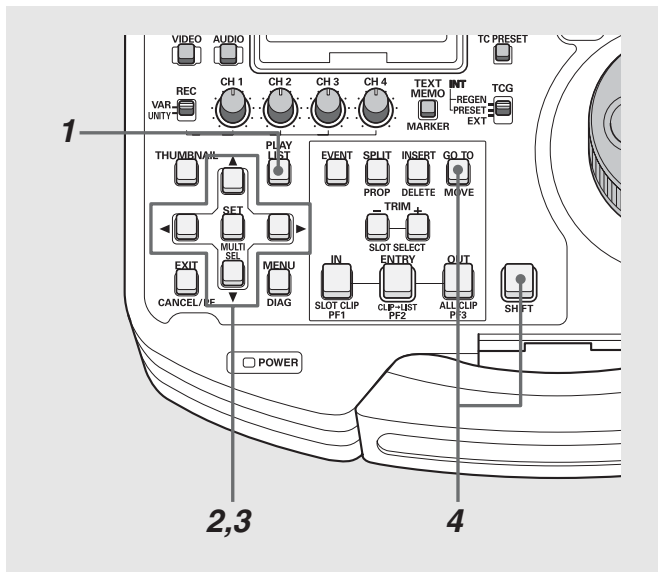
◆ **NOTE:**

- Pressing the following buttons will also finalize a change.
  - Pressing the cursor buttons.
  - Pressing the SET button.
- Performing any of the following operations will discard the changes and make you return to the play list screen.
  - Pressing the EXIT button.
  - Holding down the SHIFT button and pressing the EXIT button.
  - Pressing the PLAY LIST button.

- You cannot make changes that go beyond the start and end points of a clip.
- You cannot make changes that reverse the IN and OUT point locations.
- An event with an EXTRA track cannot be modified. Delete the EXTRA track before modifying the event.
- The IN, OUT and SPLIT buttons allow you to use the TRIM+/- button for trimming in the event register screen when the time code is displayed.

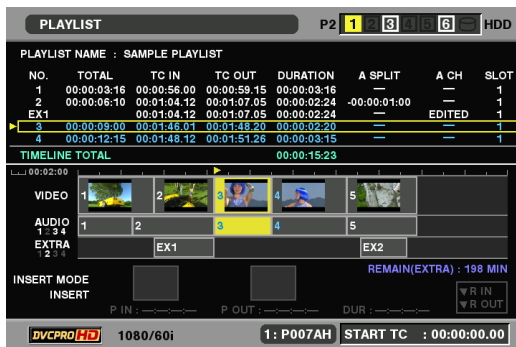
## Changing Event Order

You can move and change the order of play list events.



**1** Open the play list screen.

**2** Select the event you want to move and press the SET button.



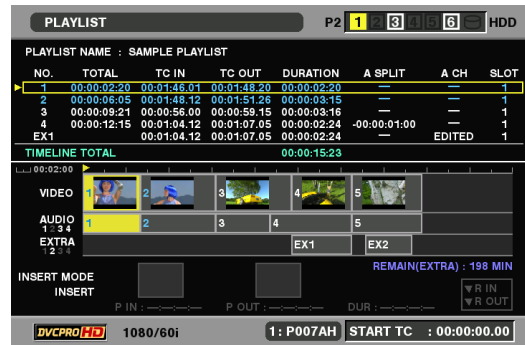
The event is selected and appears in blue. This procedure can be repeated as necessary to select multiple events.

◆ **NOTE:**

- To quickly select successive lines
  - Hold down the SHIFT button and press the SET button (MULTI SEL) to select all events from the previous time the SET button was pressed and up to the cursor location where the MULTI SEL button was pressed.
- To cancel a selection
  - Place the cursor on a selected event and press the SET button to cancel the selection.
- To cancel all selections
  - Hold down the SHIFT button and press the EXIT button (CANCEL) to cancel all selected lines.

**3** Use the cursor buttons to select a destination.

**4** Hold down the SHIFT button and press the GO TO button.



The selected event moves to the location right before the cursor and the events at the cursor location move downwards.

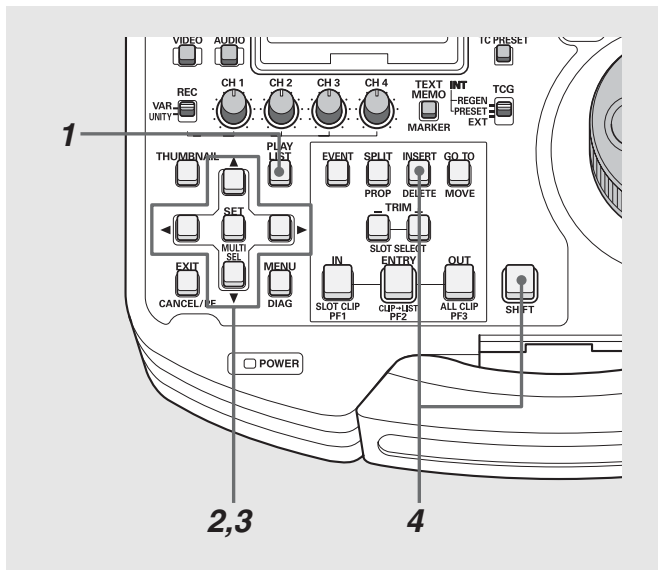
◆ **NOTE:**

- It is not possible to move only the event if that event contains an EXTRA track. Move the event and the EXTRA track.



## Deleting Events

You can use the following procedure to delete events in the play list.



**1** Open the play list screen.

**2** Select the event to delete and press the SET button.

The event is selected and appears in blue. This procedure can be repeated as necessary to select multiple events.

◆ **NOTE:**

- To quickly select successive lines, hold down the SHIFT button and press the SET button (MULTI SEL) to select all events from the previous time the SET button was pressed and up to the cursor location where the MULTI SEL button was pressed.
- To cancel a selection  
Place the cursor on a selected event and press the SET button to cancel the selection.
- To cancel all selections  
Hold down the SHIFT button and press the EXIT button (CANCEL) to cancel all selected lines.

**3** Press the MENU button.

**4** Use the cursor buttons to choose [OPERATION] – [DELETE SELECTED EVENT].

**5** Press the SET button.

**6** Select [YES] in the delete confirmation screen and press the SET button.

This deletes all selected events.

◆ **NOTE:**

- You can also delete a selected event in step 3 by holding down the SHIFT button and pressing the INSERT button (DELETE).

- It is not possible to delete only the event if that event contains an EXTRA track. Delete the EXTRA track before deleting the event, or delete the event and the EXTRA track.
- If there is an EXTRA event that span multiple events, and when events beyond a certain event in a play list are no longer needed, use the following steps to delete such events.
  1. Move to the events you want to delete.
  2. Press the A. DUB button and copy audio to EXTRA.
  3. Since the events become separated from the copied portion, select the latter part of the EXTRA event and delete it.
  4. Select the events and delete them.

### To Delete All Events

The OPERATION menu allows you to delete all events.

**1** Open the play list screen.

**2** Press the MENU button.

**3** Use the cursor buttons to choose [OPERATION] – [DELETE ALL EVENT].

**4** Press the SET button.

**5** Select [YES] in the delete confirmation screen and press the SET button.

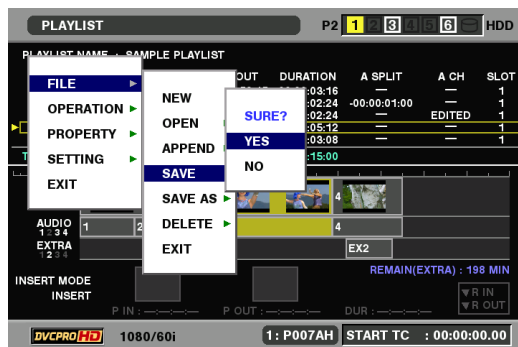
This deletes all play list events.

## Saving Events

While editing a loaded play list file or the play list file has been saved using [FILE] – [SAVE AS], the file can subsequently be saved using the following procedure.

Use [SAVE AS] for the first save operation.

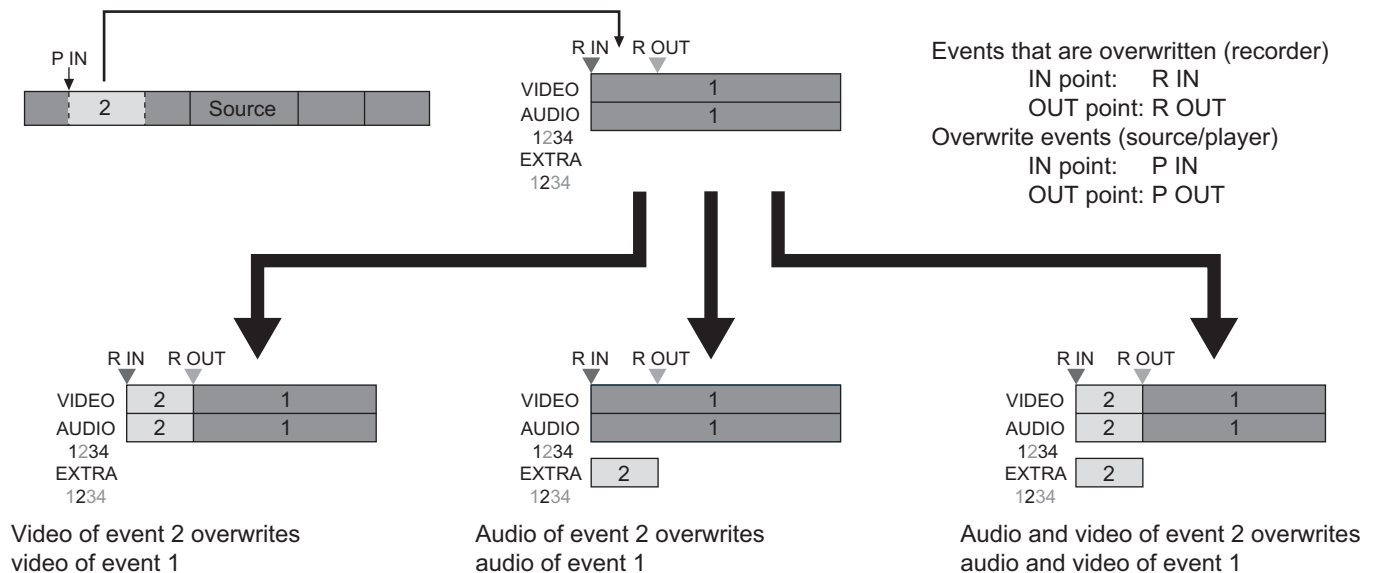
- 1 Open the play list screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to choose [FILE] – [SAVE].
- 4 Press the SET button.
- 5 Select [YES] in the confirmation screen and press the SET button.



This saves the play list.

# Overwrite Editing of Play Lists

When an event is registered, an event can be overwritten on video and audio, or on EXTRA track. Overwrite editing is performed by specifying the IN and OUT points of the event that will be overwritten (recorder side) and the event that will overwrite it (player side). Switching channels and audio level adjustments are available in an overwrite edit.



## ◆ NOTE:

This edit function uses the play list as a recorder. In the overwrite mode, press the INSERT button and locate video and audio for overwriting from clips that match the play list format. Using selected audio and video as a source/player, register IN and OUT points on both the recorder and source/player.

## Preparing for Event Overwriting

### Engaging Overwrite Mode

Set the overwrite mode from the menu.

**1** Press the MENU button and use the cursor buttons to choose [SETTING] – [INSERT MODE].

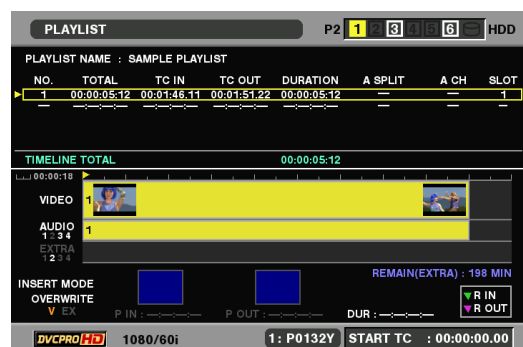
**2** Press the SET button, choose [OVERWRITE] and press the SET button.

## ◆ NOTE:

- The insert edit mode is the default setting.
- Activating auto entry will automatically register the OUT point (R OUT) registered in the play list as the IN point (R IN) of the next event.
  1. Press the MENU button and use the cursor buttons to choose [SETTING] – [AUTO ENTRY].
  2. Press the SET button, choose [ON] and press the SET button.

- Use the overwrite edit mode with REPLACE TC enabled.

If REPLACE TC is disabled, the time code value of the play list will take on the value of the time code of the overwriting event with the result that the registered time code will differ from time code after registration.



## Setting Tracks for Overwriting

Select tracks to overwrite. When V is selected, audio on the channel other than that selected by video and EXTRA is overwritten. When V and EXTRA TRACK are selected, all audio and video tracks are overwritten.

**1** Press the MENU button and use the cursor buttons to choose [SETTING] – [INPUT TRACK].

**2** Press the SET button, choose [VIDEO], [EXTRA

AUDIO], and select desired tracks. Then press the SET button.

### ◆ NOTE:

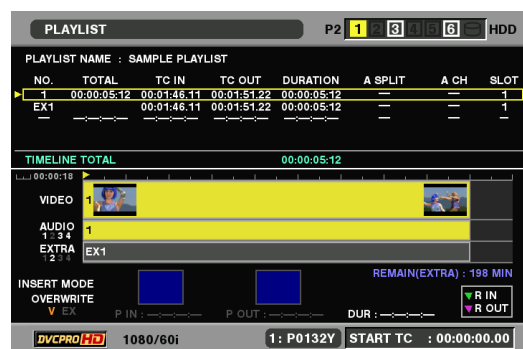
- You can also use the INPUT SELECT AUDIO and VIDEO buttons to select INPUT TRACKS.
  - Overwriting takes place only when VIDEO or EXTRA AUDIO is selected.
  - In overwriting, you can use the AUDIO CH menu to switch audio channel location in overwriting.
- For details, refer to “Audio Channel Replacement During Editing” (page 69).

## Writing Event Audio to EXTRA Track

Use the steps below to copy and paste audio registered to an event to an EXTRA track.

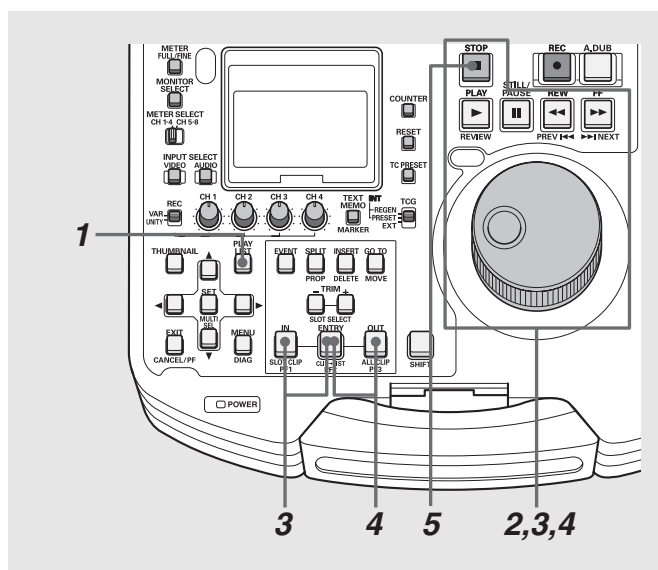
**1** Move the cursor to the event you want to copy.

**2** Press the A.DUB button to record event audio on the EXTRA track.



## Selecting Write Location and Audio/Video to Import

Use the IN and OUT buttons to select the location (R IN/R OUT) for inserting video from the play list and the location (P IN/P OUT) for inserting the source video. As soon as three IN and OUT points are defined the remaining point is automatically determined and completes registration. When both IN points are defined, the end of the source clip automatically becomes the OUT point.



## Registering the Overwrite Location

**1** Open the play list screen.

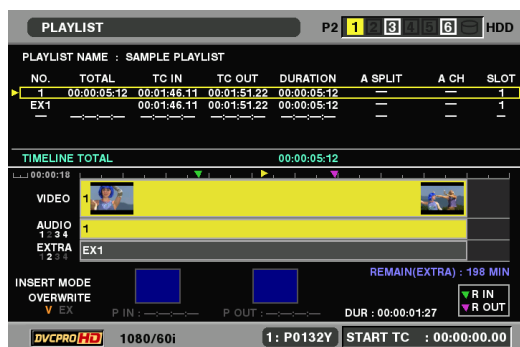
**2** Play back video to locate the overwrite location.  
Use the operation buttons or search dial to play back video.

**3** Register an IN point.  
Use the PLAY or STILL button to find a location to insert audio and video. Then hold down the IN button and press the ENTRY button.

**4** Register an OUT point.  
Use the operation buttons or search dial to locate the end of audio and video. Then hold down the OUT button and press the ENTRY button.

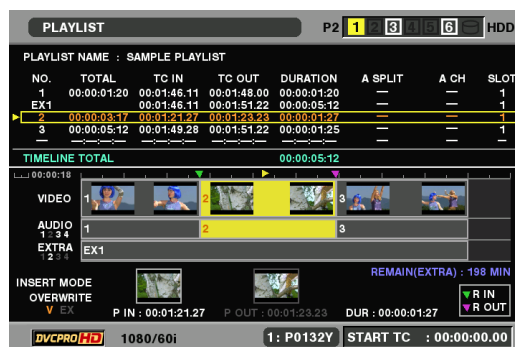
## 5 Press STOP to return to the play list screen.

The registered IN and OUT points appear as R IN ▼ (green) and R OUT ▼ (pink) at the top of the timeline.



## 4 Press the EVENT button to return to the play list.

The registered IN and OUT point thumbnails and TC appear as P IN and P OUT points below the timeline.



## Registering Audio and Video for Importing

### 1 Find audio and video to import.

Press the INSERT button to find audio and video to import. Find audio and video to import in all clips in the matching format that will be played back.

### 2 Register an IN point.

Use the operation buttons or search dial to find the start location for audio and video insertion. Then hold down the IN button and press the ENTRY button.

### 3 Register an OUT point.

Use the operation buttons or search dial to locate the end of audio and video. Then hold down the OUT button and press the ENTRY button.

#### ◆ NOTE:

- Pressing the INSERT button will also return you to the play list screen.
- The IN and OUT buttons light when an event is registered and pressing the IN and OUT buttons display the time code of the IN and OUT points.
- Pressing the IN and OUT button simultaneously shows the interval between the two points. If an OUT point is not registered, it shows the duration from the IN point to the current location.
- Holding down the SHIFT button and pressing the IN and OUT buttons simultaneously will show the total time (TOTAL DURATION) for all events.
- Holding down the IN (OUT) button and pressing the RESET button will clear the registered point.
- Pressing the IN (OUT) + ENTRY buttons in the play list will register the current playback location (yellow ▷) to R IN (R OUT).
- Pressing the IN (OUT) + GOTO buttons in the play list will move the playback location to the IN (OUT) point of the event at the cursor.
- The time code of the IN and OUT points of an EXTRA event becomes the time code of the video at that location after finalizing.

## Temporary Registration and Revision of Events

When three IN and OUT points of the four IN and OUT points of the player and recorder are specified, or both IN points are specified, an event is created in unfinalized status. The event is shown in orange.

Overwrite edited events in unfinalized status can be revised.

#### ◆ NOTE:

- When only the two IN points are registered, the end of the clip automatically becomes the P OUT point.
- When the fourth point is specified after specifying three points, the registration point corresponding to the fourth point is automatically cleared.

## Revising P IN/P OUT while Viewing Video

### 1 Press the INSERT button in the play list screen to display video.

### 2 Press the IN (OUT) + GOTO buttons or operation buttons and press the IN (OUT) + ENTRY buttons where the revision will be made to reregister.

You can perform fine adjustment (trimming) by hold down the IN (OUT) button and pressing the TRIM (+/-) button.

#### ◆ NOTE:

- Holding down the IN (OUT) button and pressing the RESET button will clear the registered point.

## Revising R IN/R OUT while Viewing Video

- 1 Press the PLAY button in the play list screen to display video.
- 2 Press the IN (OUT) + GOTO buttons or operation buttons and press the IN (OUT) + ENTRY buttons where the revision will be made to reregister.  
You can perform fine adjustment (trimming) by hold down the IN (OUT) button and pressing the TRIM (+/-) button.

## Revising in the Play List Screen

- 1 Hold down the SHIFT button in the play list screen and press the IN (OUT) button.

## Previewing and Adjusting Sound Volume

Use the following steps to preview overwritten area (in orange) to check audio and video.

- 1 Hold down the SHIFT button and press the PLAY button  
Playback starts 3 seconds prior to the overwritten area and 1 second after the area.

### ◆ NOTE:

- Press the STOP button to stop previewing.
- Overwrite edited events in unfinalized status (all events if more than one) are played back regardless of pointer location.
- The sound can be adjusted only during a preview.

## Finalizing Overwrite Editing

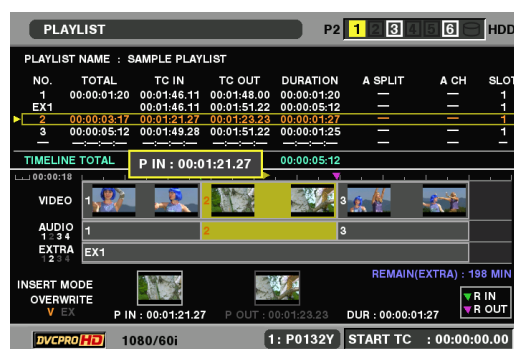
Use the steps below to finalize overwrite edited events in unfinalized status and return to normal event operation.

- 1 When there are any unfinalized events, press the REC button.
- 2 This finalizes the event and changes the orange of the unfinalized event to white.

### ◆ NOTE:

- When an event is not to be registered, clear the IN or OUT point or use CANCEL (hold down the SHIFT button and press the EXIT

- 2 The screen for revising IN/OUT points appears in P IN (P OUT) → R IN (R OUT) → OFF order.



- 3 Press the TRIM+/- button to trim.

### ◆ NOTE:

- The RESET button clears registered points.
- Holding down the button enables fast-forwarding.

- 4 Press the ENTRY button to finalize the change.  
Or press the SET button to finalize.

- 2 Use the playback volume to adjust playback level during preview.

- The playback level is fixed at the level set during preview.
- Review and play list playback plays back events at the imported sound volume.

### ◆ NOTE:

- When there are multiple events, all events are played back at the same sound volume.
- The same sound volume is used in an event and cannot be changed.

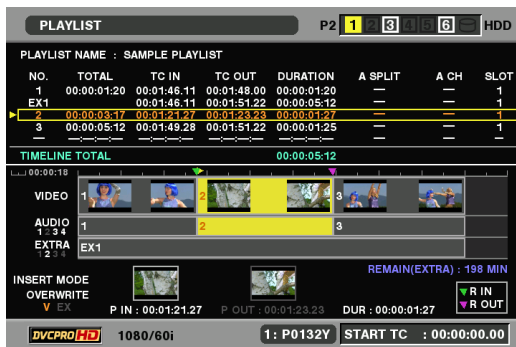
button) to clear all IN and OUT points.

- Exiting the play list by pressing the PLAYLIST button clears all unfinalized events and all IN and OUT points.
- Use the following steps to change channel settings after finalizing an event.
  1. Select an event or multiple events to edit.
  2. Choose [SETTING] – [AUDIO CH] from the menu to change the channel setting.
  3. Choose [OPERATION] – [EDIT AUDIO CH] from the menu.
  4. Select YES.  
The recalling method can also be used.  
→Refer to “Recalling Events” (page 83).

## Recalling Events

The IN and OUT points of a finalized event can be registered again to allow editing at the same location. (Recall function)

- 1** Move the cursor to the event you want to recall.
- 2** Press the REC button.
- 3** Register the time code at the R IN/R OUT and P IN points of the selected event to clear the finalized status.
- 4** Revise the IN and OUT points as necessary, adjust recording level, and set audio channels.
- 5** After revising, press the REC button to register the event.



# Audio Split Editing

Use audio split to shift the audio IN point relative to the video IN point (audio IN point split). Note that audio channels cannot be selected in this procedure. This function is performed on all channels together.

Play list example 1

The diagram for Play list example 1 illustrates the process of audio split editing. It shows a 'New play list event' (6) and 'Preceding audio' (6) being split. Below, a timeline shows event 6 being split into two segments, with a gap labeled '6/A-' between them. The software screenshot shows a playlist table with event 2 selected, and a timeline view where event 2 is split into two segments with a gap between them.

NO.	TOTAL	TC IN	TC OUT	DURATION	A SPLIT	A CH	SLOT
1	00:00:03:16	00:00:56:00	00:00:59:15	00:00:03:16	—	—	1
2	00:00:06:10	00:01:04:12	00:01:07:05	00:00:02:24	-00:00:01:00	—	1
3	00:00:11:22	00:01:46:11	00:01:51:22	00:00:05:12	—	—	1

Play list example 2

The diagram for Play list example 2 illustrates delayed audio. It shows a 'New play list event' (6) and 'Delayed audio' (6) being split. Below, a timeline shows event 6 being split into two segments, with a gap labeled '6/A+' between them. A 'Silent segment' is indicated between the split points.

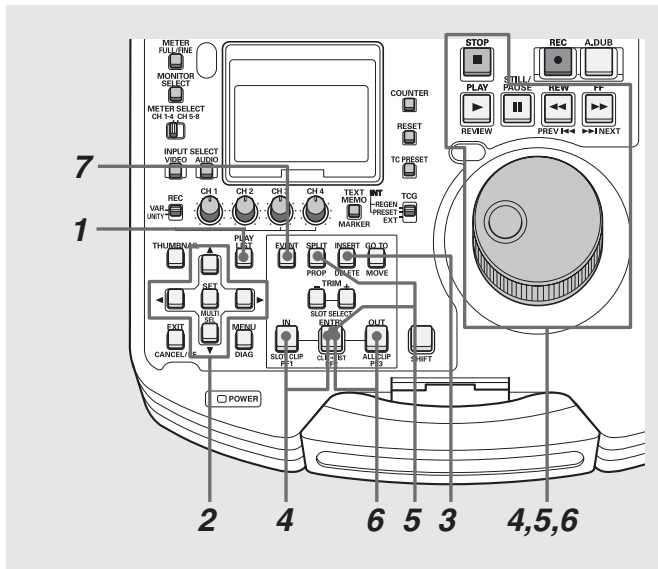


## Registering From Video

Use the following procedure to newly register an event containing an audio split.

### ◆ NOTE:

- Refer to the “Adding and Registering Audio Split Point (Changing Registered Point)” section to add an audio split to a registered event.
- First set the insert mode to INSERT.



**1** Open the play list screen.

**2** Use the cursor buttons to choose the location where you want to add the event.

**3** Press the INSERT button.  
This activates the event register mode.

**4** Register an IN point.  
Use the operation buttons or search dial to look for a location to start an event. Then hold down the IN button and press the ENTRY button.

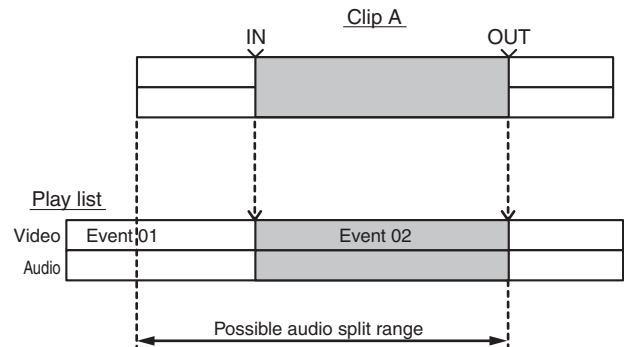
**5** Register the audio split point.  
Use the operation buttons or search dial to look for a location for an audio SPLIT point. Then hold down the SPLIT button and press the ENTRY button.

**6** Register an OUT point  
Use the operation buttons or search dial to look for a location to end an event. Then hold down the OUT button and press the ENTRY button.

**7** Press the EVENT button to end registration.  
The INSERT button will also terminate registration.

### ◆ NOTE:

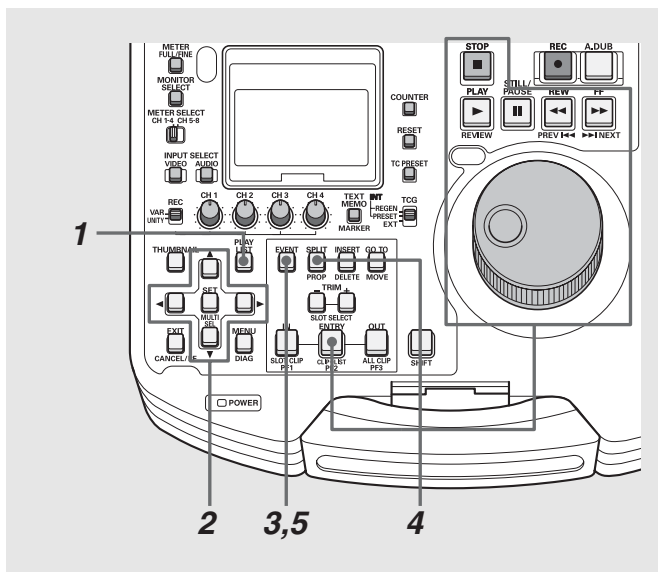
- In the split display, “-” indicates forward while “+” indicates reverse direction.
- A split can be registered from the start of the original clip to the event OUT point.



- Set the IN point before the split point.
- A SPLIT where the audio precedes the video cannot be made for an event whose IN point is at the start of the clip.
- When using the INSERT button to register a new event or using the EVENT button in a final event to register an event, register a SPLIT point before registering an OUT point as a new event will otherwise be registered.

## Adding and Registering Audio Split Point (Changing Registered Point)

You can add an audio split to an event registered in the play list and change the audio split point.



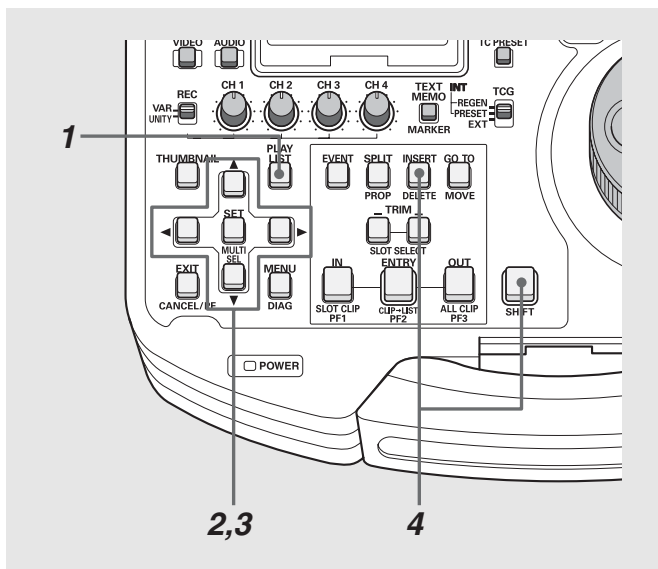
- 1 Open the play list screen.
- 2 Use the cursor buttons to select the event where you want to add (or change) an audio split point.
- 3 Press the EVENT button.  
This activates the event edit mode.
- 4 Register the audio split point.  
Use the operation buttons or search dial to look for a location for an audio split point. Then hold down the SPLIT button and press the ENTRY button.
- 5 Press the EVENT button to end registration.

### ◆ NOTE:

- Addition can take place even when the IN point is changed before step 4 or the OUT point is changed after step 4.

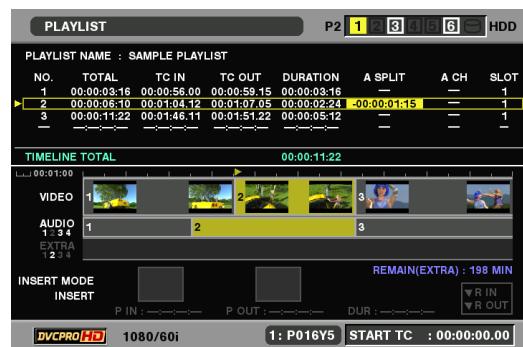
## Trimming the Audio Split Point

You can change audio split points in frame increments (in 4-frame increments at 24PN).



- 1 Open the play list screen.
- 2 Use the cursor buttons to select the event where you want to change an audio split point.

- 3 Change the audio split point.



Hold down the SPLIT button and press the TRIM+ button or the TRIM- button. The IN point is incremented or decremented in frame increments (in 4-frame increments at 24PN).

### ◆ NOTE:

- During trimming the split point is indicated in black numerals against a yellow background in the event list display of the event list split screen.

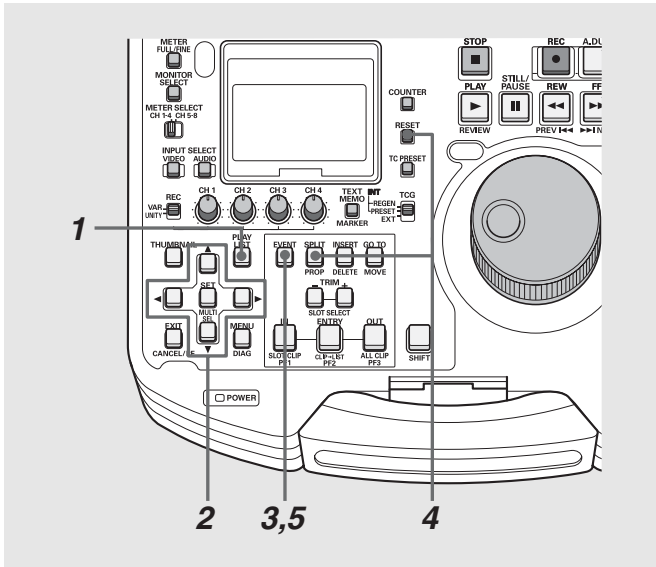
## 4 Press the ENTRY button to finalize the change.

### ◆ NOTE:

- Trimming cannot be performed beyond the start point of an original clip.
- The IN, OUT and SPLIT buttons allow you to use the TRIM+/- button for trimming in the event register screen when the time code is displayed.

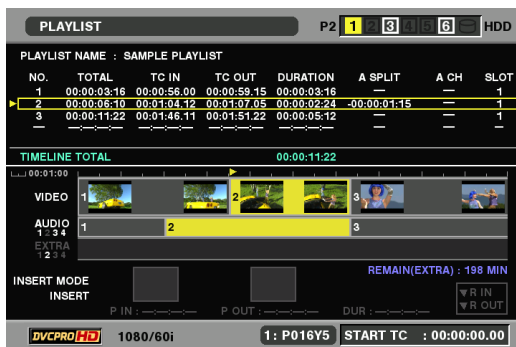
## Cancelling an Audio Split Setting

Use the following procedure to cancel an audio split setting.



1 Open the play list screen.

2 Use the cursor buttons to select the event where you want to cancel the split setting.



3 Hold down the SHIFT button and press the RESET button.

This cancels the audio split setting.

### ◆ NOTE:

- Use the play list screen or the event register mode to cancel a split setting.
- An audio split point is also cancelled by deleting the event IN point or by moving to a different clip.

# Simplified Voice-Over

This function allows you to make voice-overs and give priority to the voice-over during playback. Recording is performed on one or two channels. The channel input during recording can be mixed with the playback sound.

## ◆ NOTE:

- The voice-over data is written to the same card storing the play list. Thus the play list must be saved before audio recording or an error will be generated and recording cannot be performed.
- The maximum recording time is 720 minutes.

- The maximum number of voice-overs is 99.
- Check the remaining time on the P2 card before saving the play list. Otherwise there may not be enough time for the voice-over recording. When the P2 becomes FULL, an error occurs and recording cannot be started.

## Preparing for Voice-Over

Make the required settings in the related setup menu prior to audio recording.

→For details on settings, refer to “Setup” (page 106).

### Selecting a Track for Recording

Select the voice-over track from one of the following tracks in setup menu No. 792 (A DUB CH):

CH1, CH2, CH3, CH4, CH1+2, CH3+4

## ◆ NOTE:

- Recording tracks can be selected when the play list does not contain any voice-overs. When it does contain a voice-over, subsequent voice-overs use the same recording track.

### Mixing Playback Sound

You can select whether to mix the playback sound during a voice-over in setup menu No. 793 (A DUB PB MIX).

When mixing is selected, select the channels to mix in setup subscreen.

The playback sound of the selected channels is mixed with A DUB CH and recorded.

When there are multiple A DUB CH, make separate settings for each.

## ◆ NOTE:

- In play list playback, playback level is set to UNITY fixed, or registered recording level and cannot be changed. However, EE audio while the A.DUB button is pressed and during A.DUB can be adjusted.
- The playback level of short playback of voice-overs from still status cannot be changed.

### Selecting Method for Connecting Audio IN and OUT Points

In setup menu No. 796 (A DUB FADE), select whether the voice-over should be blended with the original audio using cut or V-fade.

→Refer to “Playing Back the Play List” (page 94).

→Refer to “Creating New Clips From the Play List (Edit Copy)” (page 95).

## ◆ NOTE:

- When an audio is overwritten and added using cut to an audio added by V-fade, V-fade will be applied to the connecting point.

### Setting Output Voice During A DUB

In setup menu No. 797 (A DUB MONI), select whether the audio being recorded should be output during the voice-over.

### Setup Example

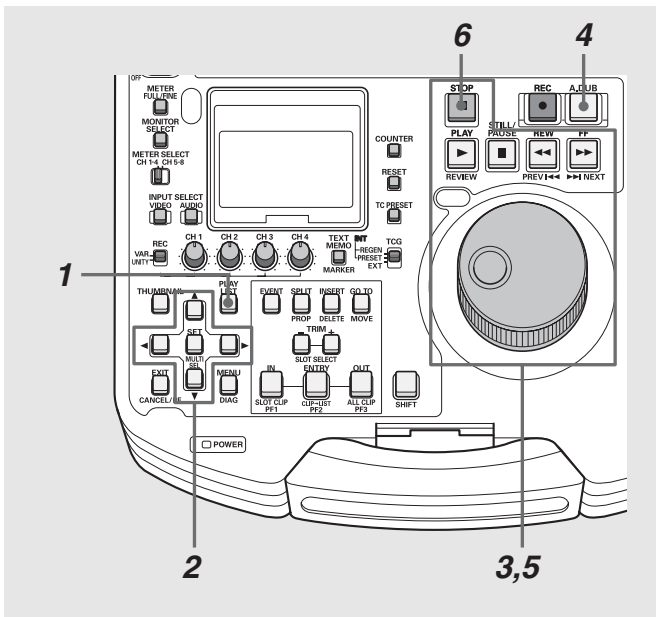
Connect a microphone to analog CH2 and mix the microphone input with CH2 playback audio and use cut processing to record on CH2. Use headphones to listen to the playback audio during recording.

Selecting recording tracks	A DUB CH = CH2
Selecting mixing with playback sound	A DUB PB MIX = ON CH2 MIX = CH2
Selecting audio connection	A DUB FADE = CUT
During simultaneous A DUB setting	A DUB MONI = OFF


## ◆ NOTE:

- Input a reference signal when mixing SDI input audio.
- IEEE1394 input audio cannot be used for voice-overs.



## Voice-Over From Still Image Status



- 1 Open the play list screen.
- 2 Use the cursor buttons to select the event where you want to perform a voice-over.

3 Find the location for the voice-over.  
Use the operation buttons or the search dial to find a location for a voice-over and press STILL .

4 Press the A.DUB button.  
This generates an A DUB PAUSE state while a still image is output at the still location.

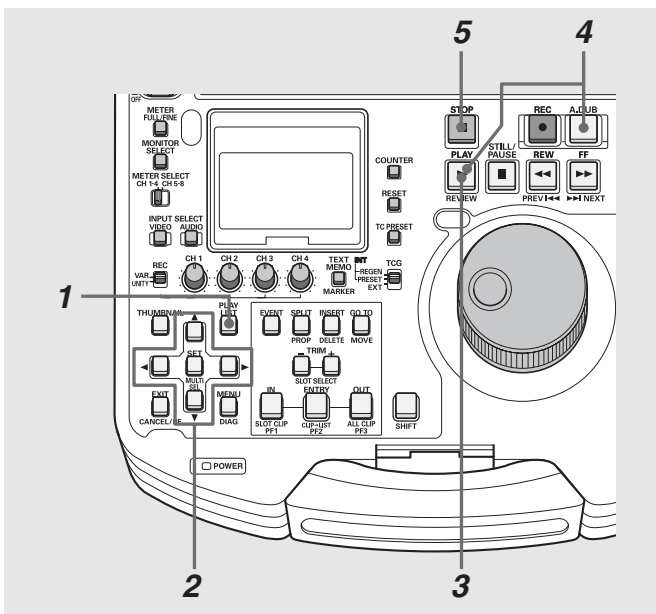
5 Press the STILL  button.  
Press the STILL  button again. After a 2-second auto reverse and a 2-second playback interval, sound recording starts.  
Use the VR (audio volume) controls as necessary to adjust the playback sound level.

6 Press the STOP  button to end the voice-over.

### ◆ NOTE:


- When the 24PN play list format is set in setup menu No. 026 (PLY LST FMT), the audio IN and OUT points are set in 4-frame increments. If the recording starts or stops at some other points, the IN and OUT points are automatically corrected within the recording range.
- A voice-over cannot be recorded at the beginning of an event, if the auto reverse time is too short. Save at least 2 seconds for auto reversing.


## Voice-Over From Playback Status



- 1 Open the play list screen.

2 Use the cursor buttons to select the event where you want to perform a voice-over.

3 Press the PLAY  button to start playback at a location before the voice-over.

4 Hold down the A.DUB button and press the PLAY  button at the voice-over location.  
This starts the audio recording.  
Use the VR (audio volume) controls as necessary to adjust the playback sound level.

5 Press STOP  button to end the voice-over.

### ◆ NOTE:

- When the 24PN play list format is set in setup menu No. 026 (PLY LST FMT), the audio IN and OUT points are set in 4-frame increments. If the recording starts or stops at some other points, the IN and OUT points are automatically corrected to fall within the recording range.

## Displaying Voice-Over Events

The voice-over appears in the play list screen as shown below.



### 1) Play List

- The voice-over is added to the line after an event with an audio start point.
- The “No.” column shows “EX\*,” not an event number.
- The “SLOT” column shows P2 card slot numbers storing audio data (same as P2 card slots storing the play list).

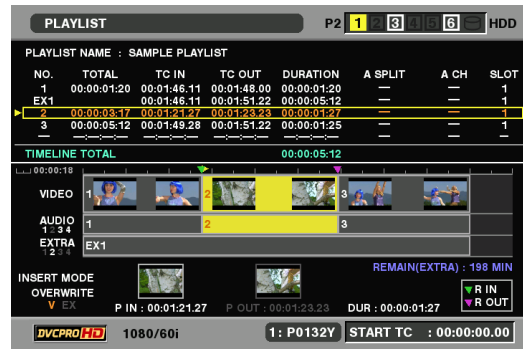
### 2) Timeline

- Extended tracks are indicated in the “EXTRA” part.
- Recorded channel numbers are also shown.

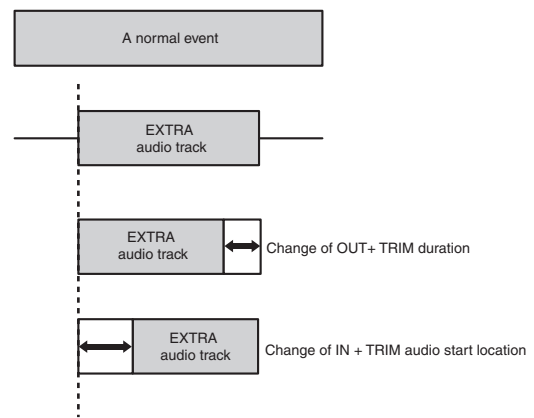
#### ◆ NOTE:

- Use the TRIM button to zoom in (+) and zoom out (-).
- When a card with a voice-over is not inserted (and NONE is indicated), play list files cannot be saved and EXTRA audio event cannot be deleted.

## 2 Select the event you want to change.



## 3 Use the following procedure to change offset and duration.



Change of start location: Hold down the IN button and press the TRIM+ button or the TRIM- button. The start location is incremented or decremented in frame increments (in 4-frame increments at 24PN).

Change of end location: Hold down the OUT button and press the TRIM+ button or the TRIM- button. The OUT point is incremented or decremented in frame increments (in 4-frame increments at 24PN).

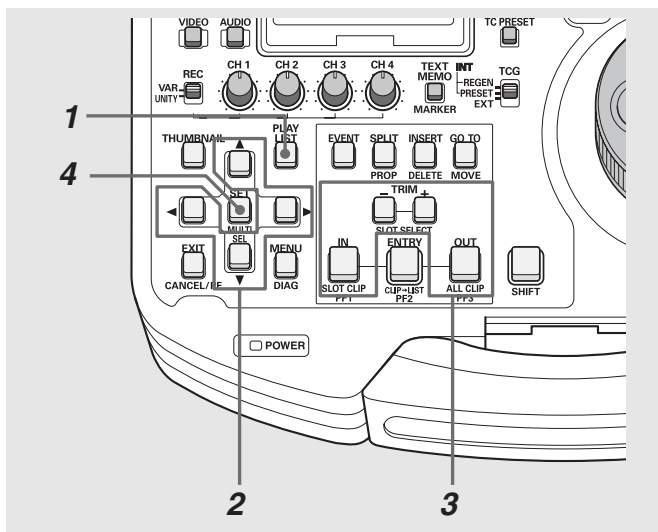
## 4 Press the ENTRY button to finalize the change.

#### ◆ NOTE:

- Except for the ENTRY button, you can also use the SET button or move the cursor with the cursor buttons to finalize a change.

## Changing the Trimming of Audio Recording Location

This function allows you to adjust the location of a voice-over in frame increments (at 24PN in 4-frame increments).

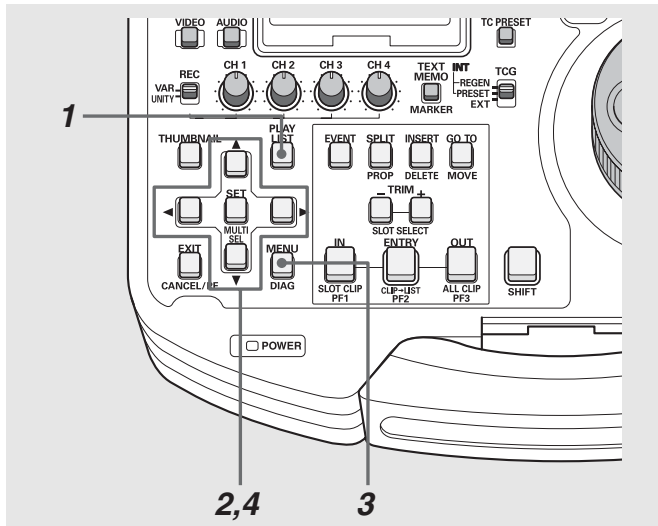


## 1 Open the play list screen.

# Viewing Event Information

## Indicating Event Property

You can use this function to view and confirm miscellaneous event information.



- 1 Open the play list screen.
- 2 Use the cursor buttons to select the event that you want information about.
- 3 Press the MENU button.
- 4 Use the cursor buttons to choose [PROPERTY] – [EVENT PROPERTY] and press the SET button.

◆ **NOTE:**

- Holding down the SHIFT button in step 2 while pressing the SPLIT button will also open the event information screen.
- You can use the cross cursor buttons to move to the previous or next event while viewing event information.

### 1) Event information

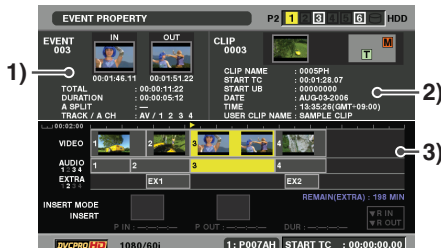
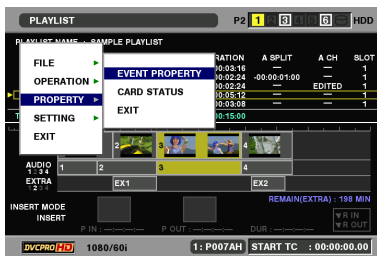
Event number  
 IN point and OUT point thumbnails and TC value  
 TOTAL (length from the beginning of the 1st event to the end of the current event)  
 DURATION (event length)  
 A SPLIT (audio split length)  
 TRACK / A CH  
 (Track status and audio channel status: AV = audio and video/FADE (CUT) = EXTRA audio splicing, indication of channels inserted in channels 1 - 4.)

### 2) Original clip information for an event

Clip number (same as thumbnail display number)  
 Clip thumbnail  
 Various indicators and write protect status  
 CLIP NAME (name of clip)  
 START TC (start value of time code)  
 START UB (user bit start value)  
 DATE (record date)  
 TIME (recording time)  
 USER CLIPNAME (clip name assigned by the user)

### 3) Timeline

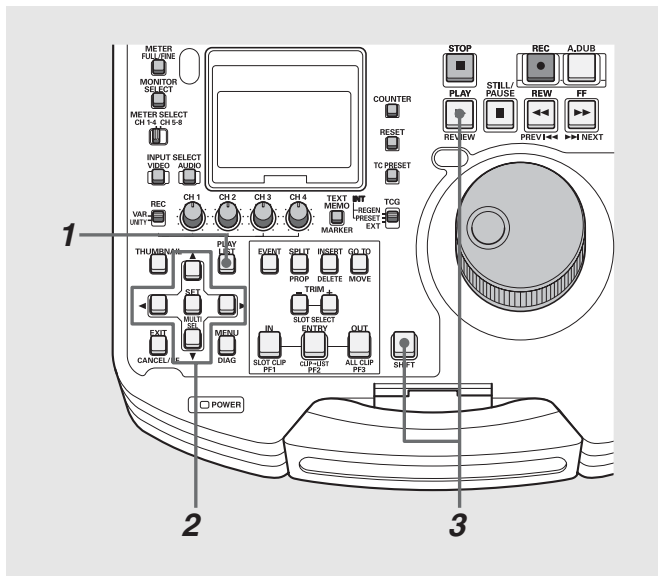
### 5 Press the EXIT button to end information display.



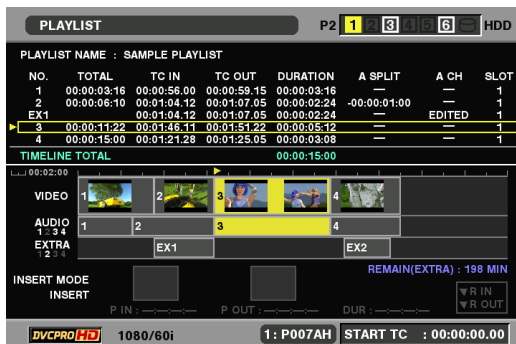
Information on the event appears.

## Event Review

You can use this function to check the content of an event by playing it from its IN point to its OUT point.



- 1 Open the play list screen.
- 2 Use the cursor buttons to select the clip you want to review.



- 3 Hold down the SHIFT button and press the PLAY button.

This plays back the clip from before the IN point (preroll time is 3 s) to beyond its OUT point (postroll time is 1 s).

### ◆ NOTE:

- The preroll time and postroll time for the first and last clip are both 0 s.
- When review stops or you press the STOP button, playback stops and you return to the play list screen. During review all buttons other than the STOP button are not available.
- A review operation can be re-started during the review currently in progress.

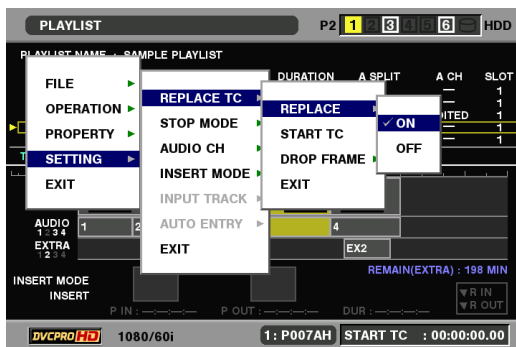


# Playing Back Play Lists

## Setting the Playback Time Code (TC)

During play list playback, you can select whether the time code should be replaced and output as a continuous value or the time code of each clip should be output. You can set the time code start value when it is replaced at output.

- 1 Open the play list screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to choose [SETTING] – [REPLACE TC] – [REPLACE].



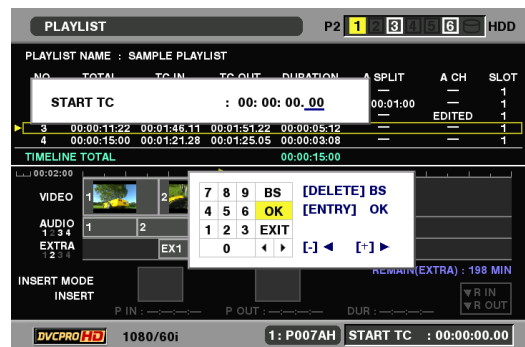
- 4 Select [ON] and press the SET button.

This replaces the playback time code.

◆ **NOTE:**

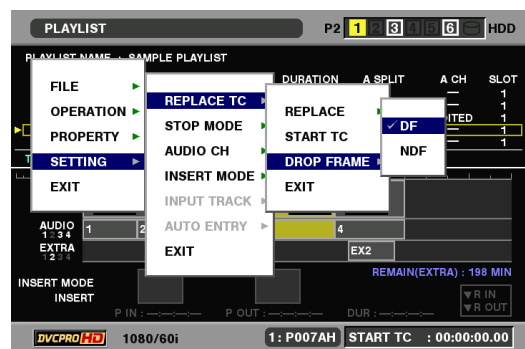
- When [OFF] is set, the time code is not replaced, instead the time code of each clip is output.
- When [OFF] is set, go to step 7 and end setup.

- 5 Use the cursor buttons to choose [SETTING] – [REPLACE TC] – [START TC] and press the SET button to enter the start time code.



The initial value of the start time code is 00:00:00:00 when replaced.

- 6 Use the cursor buttons to choose [SETTING] – [REPLACE TC] – [DROP FRAME]. Then press the SET button and select [DF] (drop frame) or [NDF] (non drop frame).



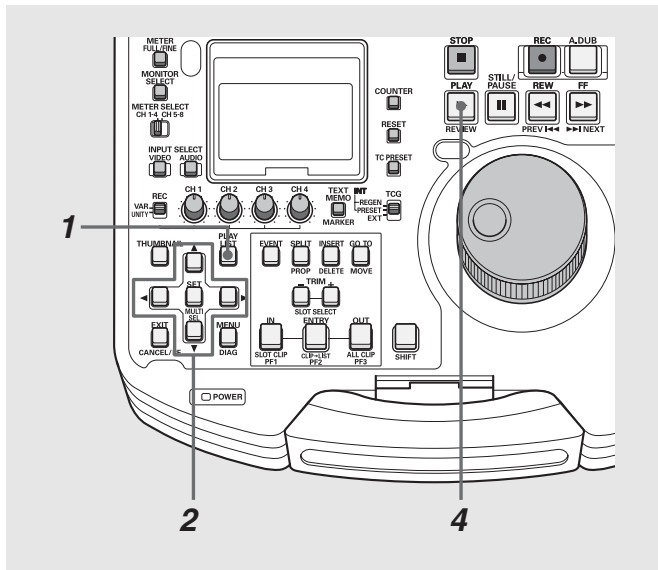
◆ **NOTE:**

- A [DF] setting cannot be made at 24PN.

- 7 Press the MENU button to end setup.

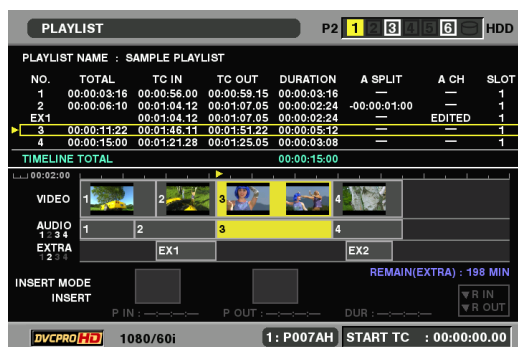
## Playing Back the Play List

Use the following procedure to play back the play list.



**1** Open the play list screen.

**2** Use the cursor buttons to select the event you want to start playback.



**3** Set the playback time code as necessary.

→ For details, refer to “Setting the Playback Time Code (TC)” (page 93).

**4** Press the **PLAY** button.

Playback starts from the cursor location and continues until the end of the play list or until all playable events have been played.

### ◆ NOTE:

- During play list playback, insert all the P2 cards that contain events that belong to the play list or normal playback will not be possible. The number of the first and subsequent events that cannot be played back are indicated in red.
- Use the **STOP** button to stop ongoing playback.
- The default stop mode setting of this unit is RETURN. Thus you return to the play list screen when playback is stopped by pressing the **STOP** button or the automatic stop function stops playback upon reaching the beginning or end of all events. The cursor position then moves to the event where the **STOP** button was pressed.
- If the menu stop mode is set to STAY, stopping playback does not return you to the play list screen but a still image is continuously displayed.
- If the menu stop mode is STAY, press the **PLAY LIST** button or the **EXIT** button after playback stops to return to the play list.
- Remote switching is available also during play list playback. The STAY stop mode is a convenient setting in remote control using RS-422A.
- When the format is 24PN, editing is performed in multiples of 24 frames/s while playback time code is 30 frames/s.

# Creating New Clips From the Play List (Edit Copy)

You can use the play list to create a new clip.  
This function is called edit copy.

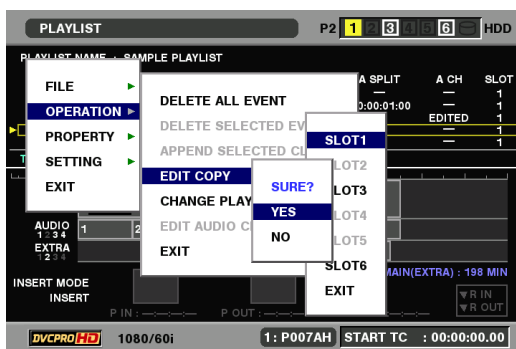
## ◆ NOTE:

- The playback time code setting allows you to start the time code from a set value after edit copy. Set the playback time code as necessary.  
→ For details, refer to “Setting the Playback Time Code (TC)” (page 93).
- You cannot use edit copy to create clips that span multiple cards. Since they will be created on one card, be sure to check the remaining space on the card you will copy the clip to.
- Play list files created on the AJ-SPD850 can be loaded but not edited. However, edit copy becomes available after saving the file under another name using SAVE AS.

## ◆ NOTE:

- If there is not enough free space left on the P2 card where edit copy will save the data, “WARNING: LACK OF REC CAPACITY!” is displayed and edit copy does not start.
- Edit copying indicates its approximate progress during operation.
- Use the SET button or the CANCEL button to cancel an ongoing edit copy operation.
- Text memos are automatically inserted at the edit points (the start of each event) of edit-copied clips.
- Edit copying does not copy any information other than the user clip name.
- The presence of different aspect ratios in the data will generate an error.
- Edit copy will copy only events that can be played back.
- Do not remove a P2 card that is being accessed (the LED of the related P2 card slot flashes).

- 1 Open the play list screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to choose [OPERATION] – [EDIT COPY].
- 4 Select the number of the P2 card slot that will store the edit copy data and press the SET button.
- 5 Select [YES] and press the SET button.



This starts edit copy.

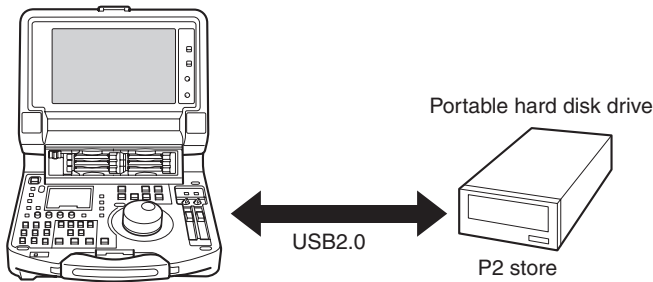
# Using USB Connectors and SD/SDHC Memory Cards

## Using USB Connectors

You can use the USB 2.0 connector on this unit to connect a hard disk or a PC to save and manage clips efficiently.

### Using the Unit as a USB Host

Connect a USB 2.0 hard disk to save P2 card data, view saved data and import data to P2 cards.

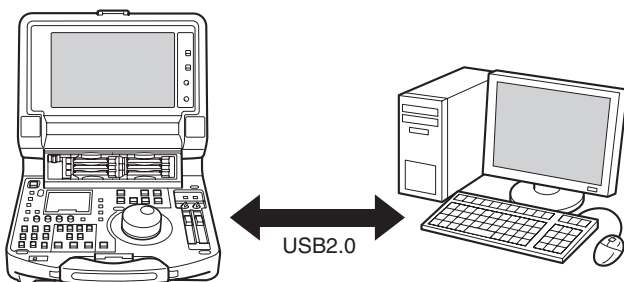


### Using the Unit as a USB Device

A USB 2.0 connection with a PC allows you to use P2 cards inserted in the slots on this unit as mass storage. The PC then requires that a USB (USB 2.0) driver be installed.

Use of P2 viewer, which can be downloaded from the following site, allows you to manipulate clips stored on a P2 card on a Windows PC.

<https://eww.pavc.panasonic.co.jp/pro-av/>

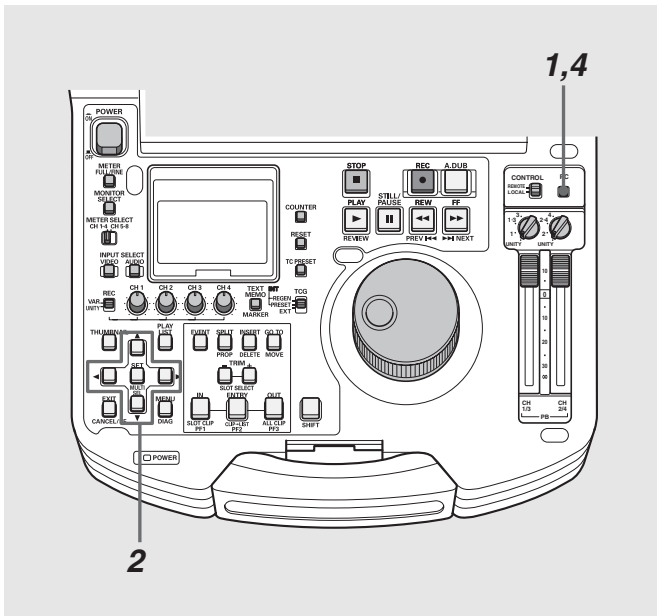


◆ **NOTE:**

- For details regarding connections, refer to the Operating Instructions supplied with the PC and the application software.

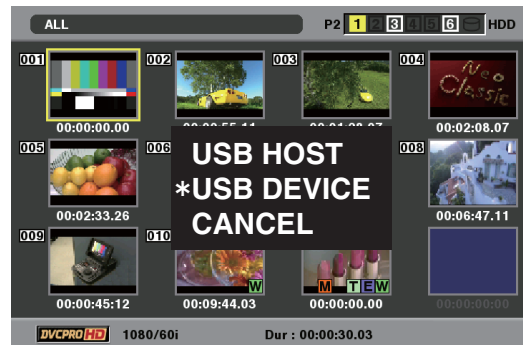
# Connecting a PC to This Unit

## Switching to USB Device Mode



**1** Press the PC button when this unit is idle.

**2** Select [USB DEVICE] in the confirmation screen and press the SET button.



“USB DEVICE” flashes on the LCD monitor to indicate that the unit is entering the USB host mode. After the mode switch, “USB DEVICE DISCONNECT” appears on the LCD screen. This message is replaced by a “USB DEVICE CONNECT” message when the connection with the PC is completed.

**3** Use USB device mode operations.

**4** Press the PC button to return to regular mode.

### ◆ NOTE:

- Recording and playback are not available in the USB device mode.
- In the play list mode, the PC button is not available during remote operation.
- In the USB device mode, USB is displayed on the panel and the VIDEO and AUDIO INPUT SELECT indications disappear.

# Using This Unit With a Hard Disk

## Supported Hard Disks

This unit supports the following hard disks types.

- Panasonic portable hard disk unit P2 store (AJ-PCS060G)
- A hard disk that supports the USB 2.0 interface

## Hard Disk Types and Available Functions

Available functions depend on the type of hard disk used. In the host mode, "PARTITION:" in the left half of the Explorer screen provides information on the hard disk that is connected to the unit.

### ◆ NOTE:

- This unit supports USB bus power (5 V, 0.5 A) but some hard disks may not be able to use USB bus power. Use a separate power supply with hard disks that do not support USB bus power.
- This unit does not support hard disks that are 2 TB (2048 GB) or larger.

Hard disk type	Features	available functions
TYPE S	A special format that permits high-speed loading of and writing in card units. This unit uses this format for formatting.	Loading and writing in card units, thumbnail display, loading and formatting in clip units.
P2STORE	This is a P2 store (AJ-PCS060G). It cannot be written to.	Loading in card units, thumbnail display, loading in clip units.
FAT	The basic primary partition on a PC is FAT 16 or FAT 32 that require a CONTENTS directory created in its foot directory.	Thumbnail display, loading in clip units, formatting * After formatting on this unit, the card is handled as a "TYPE S" hard disk.
OTHER	Hard disk other than those above * If root does not contain a directory called "CONTENTS" or if a file system other than NTFS, FAT16 or FAT32 is used.	Formatting * After formatting on this unit, the card is handled as a "TYPE S" hard disk.

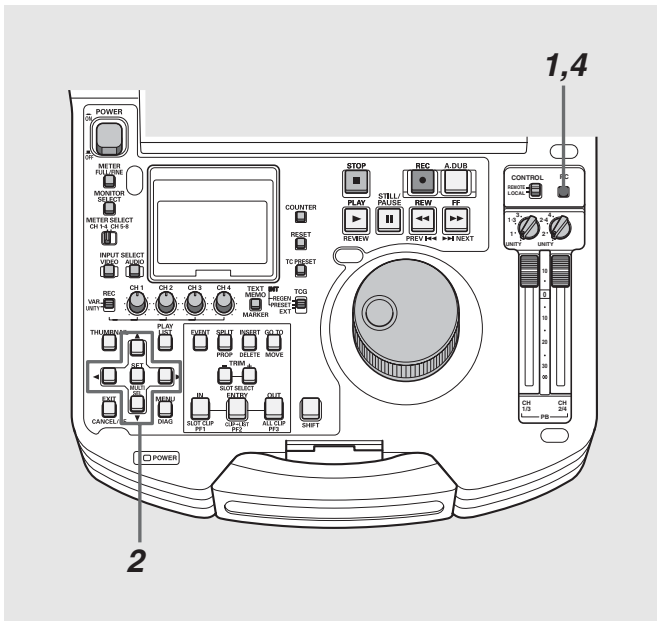
### ◆ NOTE:

- Use hard disks under the following conditions.
  - 1) Operate hard disks within its operating specifications (temperature, etc.).
  - 2) Do not use hard disks in locations that are unstable or exposed to vibration.
- Some hard disks may not operate normally.
- Use a hard disk with sufficient space for copying.
- Do not connect a hard disk to hubs or other connections that involve multiple units even if it is not powered on. Do not use other devices that are connected via hubs with a hard disk.
- During formatting and copying, do not disconnect cables, do not remove a P2 card that is involved in any of these activities and do not power off this unit and the hard disk. Otherwise this unit and the hard disk must be rebooted.
- A hard disk is a precision instrument whose read and write functions may fail in some operating environments.

Please note that Panasonic accepts no liability whatsoever for data loss or other losses either direct or indirect arising from hard disk damage or other defects.

- When data from this unit is copied to a hard disk and is managed on another PC, the data can no longer be guaranteed to work in this unit and the integrity of the hard disk data cannot be guaranteed, either.
- Repair bad clips on P2 cards before copying them to a hard disk.
- Clips on hard disks cannot be played back.
- SATA (serial ATA) or PATA (parallel ATA) interface hard disks connected using a USB cable may not be recognized.

## Switching to USB Host Mode

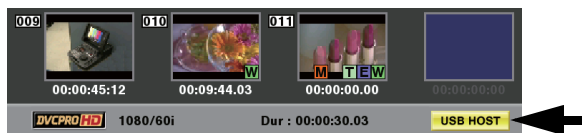
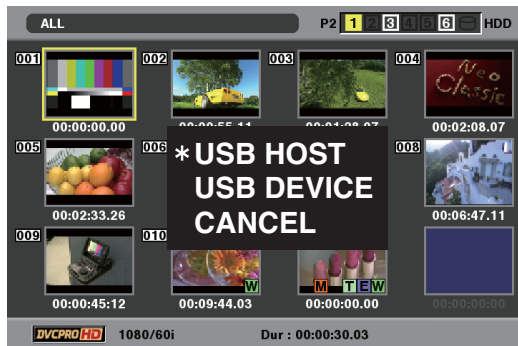


**1** Press the PC button when this unit is idle.

◆ **NOTE:**

- In the play list mode, the PC button is not available during remote operation.

**2** Select [USB HOST] in the confirmation screen and press the SET button.



"USB HOST" flashes on the LCD monitor to indicate that the unit is entering the USB host mode. After the mode switch, the thumbnail screen appears and "USB HOST" is indicated in the lower right corner.

**3** Use USB host mode operations.

◆ **NOTE:**

- While P2 cards played back in USB host mode will appear on the LCD monitor, the inputs and output on the rear panel will not work.
- Recording on P2 cards is not available, either.

**4** Press the PC button to return to regular mode.

The PC button will not work during card access.

◆ **NOTE:**

<When switching to the USB host mode>

- You cannot switch to the play list mode from the USB mode.
- In USB host mode, the VIDEO and AUDIO INPUT SELECT indications in the display panel disappear.

## Formatting Hard Disks

Initialize the hard disk in a TYPE S format.

◆ **NOTE:**

- Formatting a hard disk deletes all data on the disk.

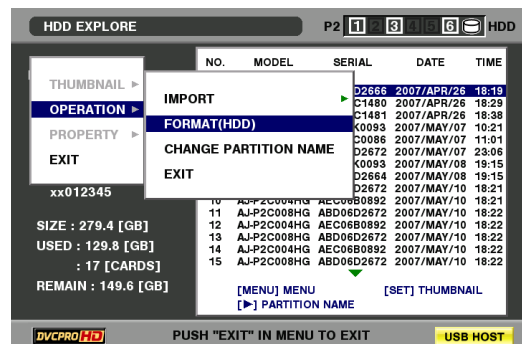
**1** Switch to the USB host mode.

**2** Connect a USB hard disk.

**3** Press the MENU button.

**4** Use the cursor buttons to choose [HDD] – [EXPLORE].  
This opens Explorer.

**5** Press the MENU button and use the cross cursor buttons to choose [OPERATION] – [FORMAT (HDD)] and press the SET button.



**6** Select [YES] and press the SET button.

- 7** When the confirmation message appears again, select [YES] and press the SET button.

This starts hard disk formatting.

## Exporting to a Hard Disk in Card Units

A TYPE S hard disk allows you to export data to a hard disk (by writing data from a P2 card to a hard disk) in P2 card units. First use this unit to format the hard disk. Up to 23 cards can be exported to a hard disk.

The exported data from a P2 card is recognized as a separate drive on a computer.

- 1** Switch to the USB host mode.

- 2** Connect a USB hard disk.

If the hard disk has not been formatted by this unit, use this unit to format it.

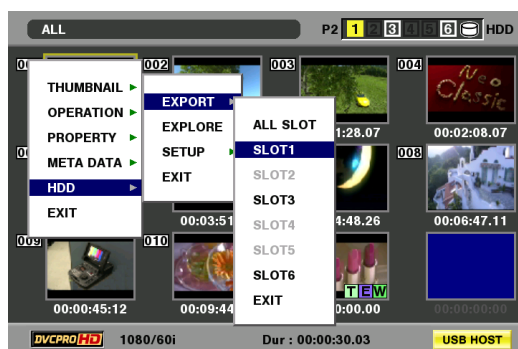
→For details, refer to “Formatting Hard Disks” (page 99).

- 3** Insert a P2 card

- 4** Open the thumbnail screen.

- 5** Press the MENU button.

- 6** Use the cursor buttons to choose [HDD] – [EXPORT].



- 7** Select the number of the source P2 card slot and press the SET button.

Selecting ALL SLOT will result in a batch export of all cards.

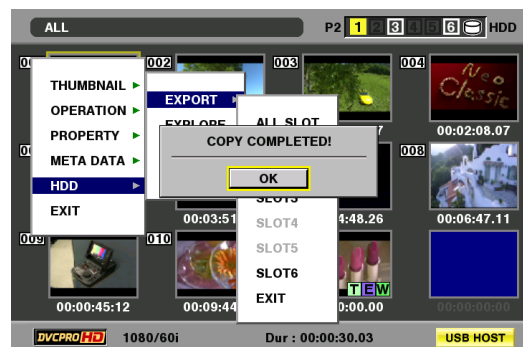
- 8** Select [YES] and press the SET button.

This starts exporting.

### ◆ NOTE:

- A progress bar appears during exporting.
- To interrupt exporting, press the SET button, select [YES] in the cancel confirmation screen and press the SET button again.
- The export operation will end earlier if the verify setting is not engaged.  
To turn off this setting, choose [HDD] – [SETUP] – [VERIFY] – [OFF].
- Copying of a P2 card that is interrupted during verification will still be successful.
- To export data to the specified folder when the hard disk is connected to a PC running under Windows, use the drive mount converter that you can download freely from the following web site. You may use the drive mount converter when there is an invisible partition because the drive overlaps an already assigned network.  
<https://www.pavc.panasonic.co.jp/pro-av/>

When the export operation ends, “COPY COMPLETED!” appears.

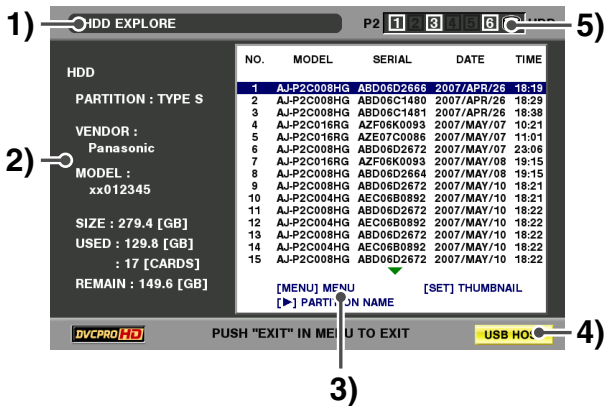




# Displaying Hard Disk Information (Explorer Screen)

Use this function to view hard disk information.

- 1) Switch to the USB host mode.
- 2) Connect a USB hard disk.
- 3) Open the thumbnail screen.
- 4) Press the MENU button.
- 5) Use the cursor buttons to choose [HDD] – [EXPLORE] and press the SET button.



**◆ NOTE:**

- Use the right and left cursor buttons to switch between date lists and partition names.

## 1) Display status

The name of the screen (HDD-EXPLORE)

## 2) Disk information

The following information appears.

Hard disk that makes it possible to read and write data by the card.	PARTITION:	TYPE S/ P2STORE
	VENDOR:	Name of vendor
	MODEL:	Model name
	SIZE:	Size (unit: GB)
	USED:	Memory used (unit: GB) Used P2 card area (unit: cards) up to 23 cards
	REMAIN:	Remaining memory (unit GB)
Regular hard disk	PARTITION:	FAT/OTHER
	VENDOR:	Name of vendor
	MODEL:	Model name
	SIZE:	Memory used (unit: GB)

## 3) Partition information

(Details are provided on the next page.)

**◆ NOTE:**

- The partition information for an invalid partition on a P2 store is indicated in gray.
- Only information for the primary partition is displayed for a hard disk that is formatted using FAT.

## 4) USB HOST

The USB host mode indicator

## 5) Hard disk drive status

Indicates whether or not a hard disk is connected and hard disk type.

**◆ NOTE:**

- To name a partition (up to 20 characters), choose [CHANGE PARTITION NAME] in the [OPERATION] menu in hard disk thumbnail screen.



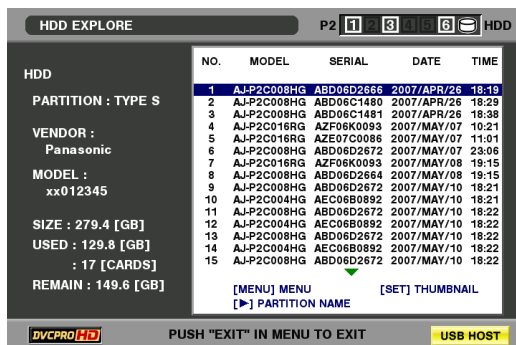
## Displaying Clip Thumbnails on a Hard Disk

You can display thumbnails and manage clips stored on the hard disk in the same way as clips on P2 cards.

**1** Open the explorer screen.

**2** Use the cursor buttons to select the partition where you want to view thumbnails and press the SET button.

A thumbnail of the clip on the partition now appears.



SET      EXIT



**1) Display status**

Indicates the status of thumbnails of hard disk clips.

**2) Partition information**

The following information appears.

SERIAL:	P2 card serial number
MODEL:	P2 card model name
NUMBER	Partition number (1 -)
(No.):	
DATE/	Date and time of partition recording
TIME:	

VERIFY:	Verify setting and result at time of recording
ON: FINISHED	Verification was successful
ON: FAILED	Verification failed
OFF	No verification
* "--" is displayed on P2 store.	
NAME:	User assigned partition names

**3) Record mode and system format**

Indicates the record mode and system format of the clip at the cursor location.

**4) Disk information**

→Details are provided on the previous page.

### NOTE:

- Press the EXIT button to return to the explorer screen.
- Change the thumbnail screen display as necessary. These changes are performed in the same way as when using P2 cards.  
→For details, refer to “Changing Thumbnail Display” (page 39).
- Hard disks formatted using FAT can handle up to 1000 clips. Any clips beyond that limit cannot be opened.
- Use the TRIM+ / - buttons to move to thumbnail displays on previous and subsequent partitions.

## Viewing Hard Disk Clip Information

You can view a variety of metadata on clips stored on a hard disk. The content is the same as that displayed by a P2 card clip property.

**1** Select a clip in the hard disk thumbnail screen.

Detailed clip information is displayed on the screen.

**2** Press the MENU button.

**3** Use the cursor buttons to select [PROPERTY] – [CLIP PROPERTY] and press the SET button.

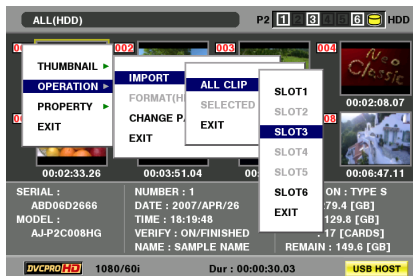
→For details, refer to “Viewing and Repairing Clip Information” (page 49).

## Importing Data from the Hard Disk to a P2 Card

### Importing Data in Partition units from TYPE S Hard Disks and P2 Store

You can import (loading data from a hard disk to a P2 card) data in partition units (card units) at high-speed to a P2 card that has the same capacity as the source card.

- 1 Insert the P2 card to which the data will be imported.
- 2 Open the P2 thumbnail screen.
- 3 Press the MENU button.
- 4 Use the cursor buttons to select [HDD] – [EXPLORE] and press the SET button.
- 5 Select the partition that will be copied and press the SET button.
- 6 Press the MENU button.
- 7 Use the cursor buttons to choose [OPERATION] – [IMPORT] – [ALL CLIP] and press the SET button.



- 8 Select the number of the P2 card slot where the formatted P2 card resides to which the data will be imported and press the SET button.
- 9 Select [YES] and press the SET button.

This starts importing. When the import operation ends, "COPY COMPLETED!" appears.

#### ◆ NOTE:

- When data is imported to a P2 card that differs from the original P2 card, some clips may become incomplete (⚠ indicator). Then use the reconnection function to rebuild the clip. Refer to "Reconnecting Incomplete Clips" (page 48).
- A menu setting allows you to turn verification during copying on or off.

### Importing Data to a P2 Card in Clip Units

You can select a hard disk clip and import it to a P2 card.

- 1 Insert the P2 card where the data will be imported to.
- 2 Open the hard disk thumbnail screen.
- 3 Press the MENU button.
- 4 Use the cursor buttons to select [HDD] – [EXPLORE] and press the SET button.
- 5 Select the partition that will be copied and press the SET button.
- 6 Select a clip to copy.
- 7 Press the MENU button.
- 8 Use the cursor buttons to choose [OPERATION] – [IMPORT] – [SELECTED CLIPS].
- 9 Select the number of the P2 card slot that will import the data and press the SET button.
- 10 Select [YES] and press the SET button.

This starts importing.

When the import operation ends, the message "COPY COMPLETED!" appears.

#### ◆ NOTE:

- Verification is not performed when an entire clip is imported.
- The operation of "importing data in clip units" is almost the same as that of "copying clips."  
→ For cautions to be observed when importing data in clip units, refer to "Copying Clips" (page 46).

# Using SD/SDHC Memory Cards

This unit supports SD/SDHC memory cards.

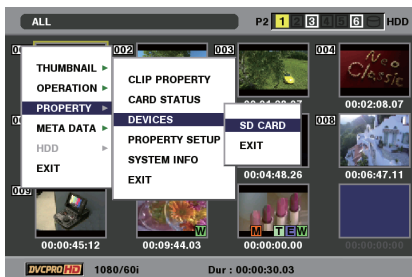
## ◆ NOTE:

- Current SETUP menu settings can be saved to and loaded from an SD memory card. For details, refer to page 128.

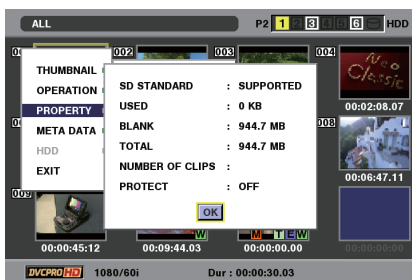
## Displaying Miscellaneous SD Memory Card Information

Use the following procedure to display SD memory card status on screen for checking.

- 1 Open the thumbnail screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to choose [PROPERTY] – [DEVICE] – [SD CARD] and press the SET button.



The following information may also appear depending on card status.



SD STANDARD:	Indicates that an SD memory card is formatted according to the SD/SDHC standard.
SUPPORTED:	Complies with SD/SDHC
NOT SUPPORTED:	Does not comply with SD/SDHC

USED:	Used capacity (bytes)
BLANK:	Free space (bytes)
TOTAL:	Total capacity (bytes)
NUMBER OF CLIPS:	The number of clips on an SD memory card when clips have been copied to an SD memory card using a proxy or a P2 camera recorder.
PROTECT:	Write protected

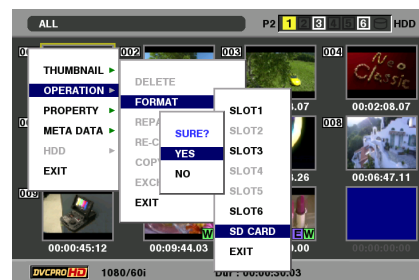
- This unit cannot record proxies.

- 4 Press the SET button and the MENU button to end processing.

## Formatting SD Memory Cards

Use the following procedure to format an SD memory card inserted in an SD memory card slot.

- 1 Open the thumbnail screen.
- 2 Press the MENU button.
- 3 Use the cursor buttons to select [OPERATION] – [FORMAT] – [SD CARD].
- 4 Select [YES] and press the SET button.



The card is now formatted.

## ◆ NOTE:

- To cancel formatting, select [NO] and press the SET button.

- 5 Press the SET button (check) when the completion message appears.

---

◆ **NOTE:**

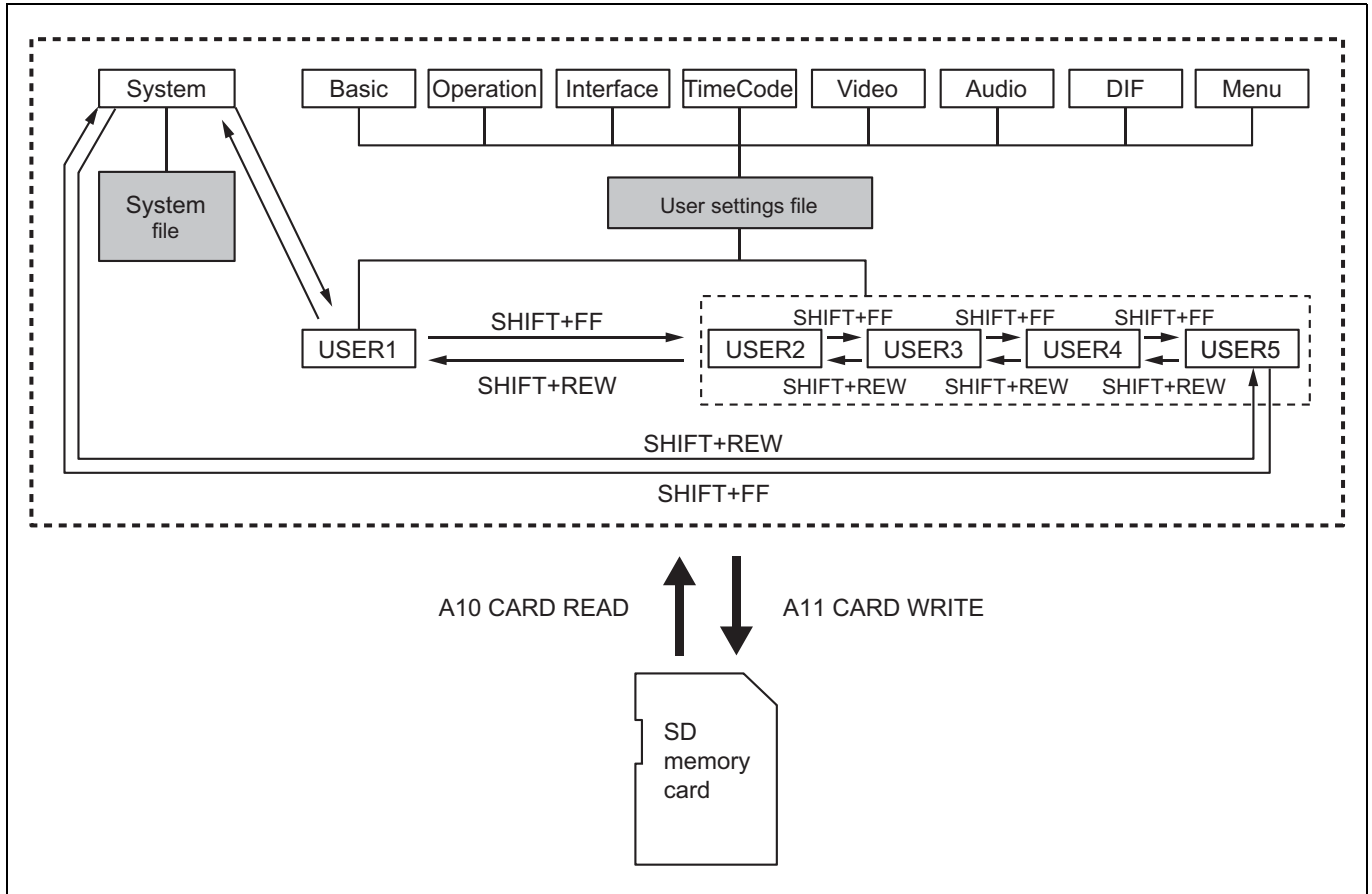
- Repeat the procedures in steps 2 to 4 to format P2 cards in other P2 card slots.

**6** Press the MENU button to end processing.

# Setup

## Unit Setup

The settings for this unit consist of SYSTEM, BASIC, OPERATION, INTERFACE, TIME CODE, VIDEO, AUDIO, DIF and MENU. The SYSTEM setting values are stored in the SYSTEM file. The other setting values are stored in the user setting file. Up to five user files (USER1 to USER5) can be saved. These settings (up to 4 files) can be written to and loaded from SD memory cards.



This unit can possess up to five user files, each of which can be selected from a menu setting.

Setting values can be changed as necessary.

→For details on change operations, refer to “Changing Settings” (page 107).

After a change, the content of USER1 can be saved (copied) to USER2 to USER5.

→For details, refer to “Setup menu No. A01 (SAVE)” (page 127).

SETUP menu settings can be saved to and loaded from an SD memory card.

→For details, refer to “Setup menu No. A10 (CARD READ), A11 (CARD WRITE)” (page 127).

### Automatic Loading of User Setting File at Power up

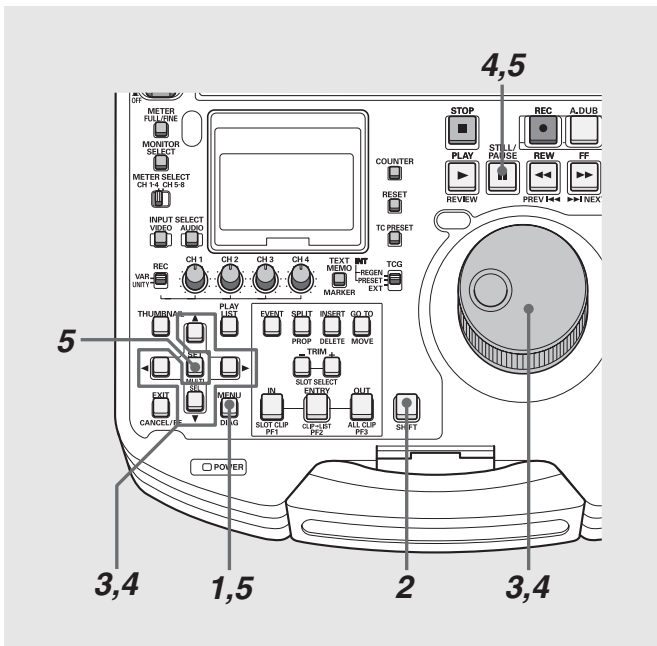
You can specify the user setting files that will be loaded in USER1 at power up. You can also decide to use the same settings as last time.

→For details, refer to “Setup menu No. A02 (P.ON LOAD)” (page 127).

# Changing Settings

The menus on the LCD monitor or a monitor (when the SUPER switch on the right side of the LCD monitor is set to "ON") connected to the ANALOG COMPOSITE MONITOR OUT connector make it possible to change settings.

## Change Operations



### 1 Press the MENU button.

The setup menu screen appears on the LCD monitor and the counter display indicates the setup menu number.

### 2 Select the file to change.

- Hold down the SHIFT button and press the FF button or the REW button to switch to the next or previous file.

### 3 Select items to change.

Turn the search dial or press the up () or down () buttons to move the cursor (\*) to the item you want to change.

- Use the search dial in JOG mode.
- Turn the dial clockwise to increment item numbers (001→002→003→004→) and counterclockwise to decrement them.
- To switch to the next item, hold down the PLAY button and press the FF button or the + button. To switch to a previous item, hold down the PLAY button and press the REW button or the - button.

### 4 Change set values.

Select the item to change, hold down the STILL/PAUSE button and turn the search dial or press the left () or right () button to change the setting.

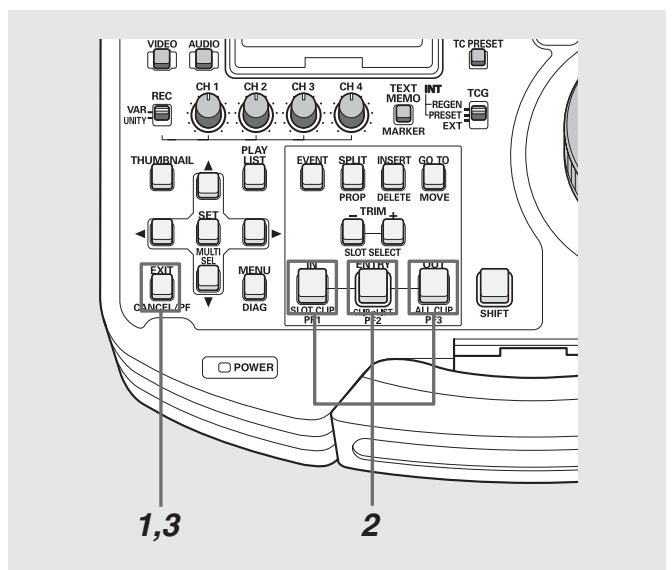
- Turn the dial clockwise (or press the right button) to increment the set number and turn it counterclockwise (or press the left button) to decrement it.
- Release the STILL/PAUSE button after making the change.
- In the SHTL mode, set the search dial to the center position or items will move.
- Repeat the operations described in steps 3 and 4 when there are more items to change.

### 5 Finalize the change.

Press the MENU button.

In the confirmation message that appears, press the SET button to accept the change or press the EXIT button to cancel it. The menu closes after this operation.

## Making changes using the PF buttons



You can assign three of the items that are most often changed to the PF buttons to enable quick changes of the setting values.

Assign a setting item to the PF button and perform the following operation to change setting values.

→For details on how to assign items to the PF button, refer to “Setup menu No. A04 to A06 (PF1 ASSIGN to PF3 ASSIGN)” (page 127).

## 1 Press the PF (EXIT) button.

Registered items appear on the LCD monitor.

## 2 Press the PF button (1 to 3) required to bring up the item to change.

Each press of the button updates the setting value.

## 3 Press the PF (EXIT) button to end changing settings.

### ◆ NOTE:

- The change process is automatically disengaged if left idle for 5 seconds.
- The PF button is not available in the thumbnail and play list modes.

## Using a Lock to Protect the User Setting File

You can lock the system files and user setting files (USER2 to USER5) to prevent inadvertent changes.

→For details on releasing the system file lock setting, refer to “Setup menu No. 30 (MENU LOCK)” (page 110).

→For details on releasing the user file lock setting, refer to “Setup menu No. A03 (MENU LOCK)” (page 127).

### ◆ NOTE:

- Files can be loaded from the SD card even if they are locked. The status after load operation depends on the setting defined by the loaded data.

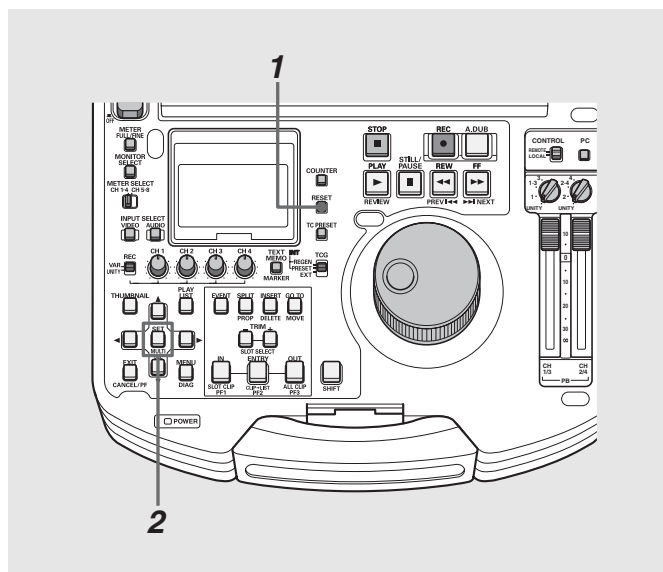
## Returning to Factory Defaults (Initial Settings)

When the menu is open, you can return the content of the user setting file that appear on the screen to its factory defaults.

### ◆ NOTE:

- This operation returns the content of the user setting file displayed on the screen to its factory defaults. The setting files of other users are not affected.
- System settings cannot be returned to their factory defaults when a system file is open. Other settings are returned to their factory defaults.
- Settings cannot be returned to their factory defaults when MENU LOCK is engaged. Set MENU LOCK to OFF.

## 2 Press the SET button.



## 1 Press the RESET button when the menu is open.



# Item Settings

## SYSTEM

The system menu specifies analog component (HD) output, analog composite output, phase adjustment of audio output, system frequency, phase of SD REF input of HD output, and system file lock.

\* An underlined setting indicates an initial value.

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
12	SYS H(HD)	0000   <u>1375</u>   2750	-1375   <u>0</u>   1375	Adjusts system phase of analog component (HD) output and HD SDI output (in 13.5 ns steps). -: Advances the phase. +: Delays the phase. <b>NOTE:</b> A reset does not return this setting to its factory default. An item that flashes can be returned to its factory default by pressing the RESET button.
14	SYS SC(SD)	0000   <u>0128</u>   0255	-128   <u>0</u>   127	Adjusts the system phase of the analog composite output and SD SDI output (total variable range: $\pm 180^\circ$ ). <b>NOTE:</b> A reset does not return this setting to its factory default. An item that flashes can be returned to its factory default by pressing the RESET button.
15	SYS H(SD)	0000   <u>0864</u>   1728	-864   <u>0</u>   864	Adjusts system phase of analog composite output and SD SDI output (in 37 ns steps). -: Advances the phase. +: Delays the phase. <b>NOTE:</b> A reset does not return this setting to its factory default. An item that flashes can be returned to its factory default by pressing the RESET button.
18	SCH COAR(SD)	<u>0000</u> 0001 0002 0003	<u>0</u> 90 180 270	Adjusts the SCH phase of analog composite output (four $90^\circ$ positions).
19	SCH FINE(SD)	0000   <u>0032</u>   0064	-32   <u>0</u>   32	Adjusts the SCH phase of analog composite output (total variable range $\pm 45^\circ$ or more). Changes the SC phase but not the H phase. Covers $\pm 180^\circ$ in combination with No. 18 SCH COAR(SD).
20	AV PHASE	0000   <u>0128</u>   0255	-128   <u>0</u>   127	Adjusts audio output phase relative to video output (in 20.8 $\mu$ s steps). -: Advances audio output phase relative to video output. +: Delays audio output phase relative to video output.
25	SYSTEM FREQ	For AJ-HPM100P		Sets system frequency. 0: 59.94Hz 1: 50Hz <b>NOTE:</b> Changing this item will only cause the menu item to flash but the setting is not actually reflected to this unit. For the changes to take effect, turn the power off and turn it back on again.
		<u>0000</u>	<u>59.94</u>	
		0001	50	
		For AJ-HPM100E		
		0000	59.94	
		<u>0001</u>	<u>50</u>	

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
26	HD SYS H ADV	<u>0000</u> 0001	<u>0H</u> 90H	<p>Specifies whether or not HD output should advance 90H phase relative to SD REF input during SD REF input.</p> <p>0: Outputs HD at the same phase as SD REF. 1: HD output is output at a phase that is 90H advanced relative to SD REF.</p> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>• The audio output and TC output are output in the same phase as HD output.</li> <li>• At 720p, the phase difference is 120H.</li> <li>• This menu is not displayed when 50 is selected in menu No. 25 SYSTEM FREQ.</li> </ul>
30	MENU LOCK	<u>0000</u> 0001	<u>OFF</u> ON	<p>Sets/releases the system file lock mode.</p> <p>0: Releases the lock (file data can be changed) 1: Lock is engaged (file data cannot be changed)</p>

## BASIC

This menu sets buttons available on the key panel in REMOTE mode, switches display of the CTL counter display between 12 and 24-hour clock display, sets superimposed display, character displays in superimposed display, SETUP-MENU and other displays, sets recording formats, sets the formats that can be added to the play list and sets the time of the internal clock.

\* An underlined **setting** indicates an initial value.

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
001	LOCAL ENA	0000 <u>0001</u> 0002	DIS <u>STOP</u> ENA	Restricts the number of buttons on the key panel that are available when the CONTROL switch is set to REMOTE. 0: No buttons are available. 1: Only the STOP button is available. 2: All buttons are available.
002	CTL DISP	<u>0000</u> 0001	$\pm 12h$ 24h	Switches the CTL counter display between 12 and 24-hour clock display. 0: 12-hour clock display 1: 24-hour clock display
003	REMAIN SEL	0000 0001 <u>0002</u> 0003	OFF 2L <u>1L</u> R/TTL	Specifies whether to display the remaining time or total time via the VIDEO MON connector and via superimposed display of the LCD panel. 0: No display. 1: Displays remaining media time on the second line. 2: Displays remaining media time on the first line. 3: Displays the remaining media time on the first line and total media time on the second line. <b>NOTE:</b> • These functions are not displayed when "2L" is selected and "TIME" is set in setup menu No. 006 (DISPLAY SEL). • Total tape time is not displayed when "R/TTL" is selected and "TIME" is set in setup menu No. 006 (DISPLAY SEL).
006	DISPLAY SEL	0000 <u>0001</u> 0002 0003 0004 0005 0006 0007 0008 0009	TIME <u>T&amp;STA</u> T&S&M T&RT T&YMD T&MDY T&DMY T&UB T&CTL T&T	Specifies the output of the VIDEO MON connector or what is displayed in the superimposed display of the LCD panel. Here, "data" indicates the CTL/TC/UB value selected with the COUNTER button. 0: Data only 1: Data and operating status 2: Data, operating status and mode 3: Data and REC TIME 4: Data and REC DATE (year/ month/day) 5: Data and REC DATE (month/day/year) 6: Data and REC DATE (day/month/year) 7: Data and user bit However, when UB is selected with the COUNTER button, the time code is indicated after the user bit. 8: Data and CTL However, when CTL is selected with the COUNTER button, the time code is indicated after CTL data. 9: Data and time code <b>NOTE:</b> An error message appears in the superimposed display if a warning or error occurs when T&S&M is selected.
007	CHARA H-POS	0000   <u>0004</u>   0016	0   <u>4</u>   16	Specifies the horizontal character position output via the VIDEO MON connector or displayed in the superimposed display of the LCD panel.

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
008	CHARA V-POS	When set to 59.94 Hz		Specifies the vertical character position output via the VIDEO MON connector or displayed in the superimposed display of the LCD panel.
		0000	0	
		<u>0020</u>	<u>20</u>	
		0022	22	
		When set to 50 Hz		
		0000	0	
		<u>0022</u>	<u>22</u>	
		0028	28	
009	CHARA TYPE	<u>0000</u> 0001	<u>WHITE</u> W/OUT	Specifies the display type output via the VIDEO MON connector or in the superimposed display, SETUP-MENU and other LCD panel displays. 0: White characters against a solid black background 1: White characters with a black border
020	SYS FORMAT	When set to 59.94 Hz		Specifies the recording format used by this unit. 0: 1080i mode 1: 720p mode 2: 480i mode (when set to 59.94 Hz)/576i mode (when set to 50 Hz)
		<u>0000</u>	<u>1080i</u>	
		0001	720p	
		0002	480i	
		When set to 50 Hz		
		<u>0000</u>	<u>1080i</u>	
		0001	720p	
		0002	576i	
024	REC FMT(SD)	<u>0000</u> 0001 0002	<u>50M</u> 25M DV	Specifies the recording format when menu No. 020 SYS FORMAT is set to 480i or 576i. 0: DVCPRO50 (50 Mbps) 1: DVCPRO (25 Mbps) 2: DV (25 Mbps)
025	REC FMT (HD)	<u>0000</u> 0001 0002	<u>DVCPRO</u> AVC50 AVC100	Specifies the recording format when 1080i or 720p is selected in menu No. 020 SYS FORMAT. 0: DVCPRO HD(100Mbps) 1: AVC-Intra50 2: AVC-Intra100 <b>NOTE:</b> Appears only when an optional AJ-YBX200G AVC-Intra Codec board is installed.
026	PLY LST FMT	When set to 59.94 Hz		Specifies the format used by the play list. <In the DVCPRO HD format> 0: Format set in menu No. 020 SYS FORMAT and No. 025 REC FMT (HD). 1: 720/30PN (when set to 59.94 Hz)/720/25PN (when set to 50 Hz) 2: 720/24PN
		<u>0000</u>	<u>SYSFMT</u>	
		0001	30PN	
		0002	24PN	
		When set to 50 Hz		
		<u>0000</u>	<u>SYSFMT</u>	<In the AVC-Intra format> 0: Format set in menu No. 020 SYS FORMAT and No. 025 REC FMT (HD). 1: 1080/30PN (when set to 59.94 Hz)/1080/25PN (when set to 50 Hz) or 720/30PN (when set to 59.94 Hz)/720/25PN (when set to 50 Hz) 2: 1080/24PN or 720/24PN <b>NOTE:</b> • When 480i or 576i is selected in menu No. 020 SYS FORMAT, a 30PN and 24PN selection is handled as a SYSFMT setting. • The number of lines in the AVC-Intra format depends on the setting in the No. 020 SYSFORMAT menu.
		0001	25PN	

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
032	REC REF	<u>0000</u> 0001	<u>NORMAL</u> SLTC	Specifies the reference to synchronize the frames for recording. 0: The input video signal is automatically identified and serves as reference. 1: The time code which is input to the SD I IN connector is identified and serves as reference. <b>NOTE:</b> When the SLTC is selected, the following settings are necessary to validate the settings for this item: <ul style="list-style-type: none"> <li>• Menu No. 25 SYSTEM FREQ: 59.94</li> <li>• Menu No. 020 SYS FORMAT: 720p</li> <li>• VIDEO INPUT SELECT: SDI</li> </ul>
050	P.ON GUI	0000 <u>0001</u>	OFF <u>THUMB</u>	Specifies whether or not the thumbnail screen appears when the power is turned on. 0: Thumbnail screen does not appear. 1: Thumbnail screen appears.
069	CLOCK SET			Sets the internal clock. <b>NOTE:</b> Press the STOP or SET button to open the subscreen for setting the time. Change the date in the subscreen and press the SET button to set the clock date. To exit the subscreen without setting a date, press the STOP or EXIT button again.
Subscreen				
00	YEAR	0000   0030	2000   2030	Sets the year.
01	MONTH	0001   0012	JAN   DEC	Sets the month. <b>NOTE:</b> Setting a nonexistent day for February, April, June, September and November will automatically set the equivalent day in the following month.
02	DAY	0001   0031	1   31	Sets the day. <b>NOTE:</b> Setting a nonexistent day for February, April, June, September and November will automatically set the first day in the following month.
03	HOUR	0000   0023	0   23	Sets the hour. Set the hour according to the 24-hour clock.
04	MINUTE	0000   0059	0   59	Sets the minute.
05	TIME ZONE	<u>0000</u> 0001 0002   0026 0027   0050	<u>00:00</u> +00:30 +01:00   +13:00 -12:00   -00:30	Sets the time difference from the world standard time. Use the table below for reference in setting the time.

Time difference	City/Region
00:00	Greenwich
+00:30	
+01:00	Central Europe
+01:30	
+02:00	Eastern Europe
+02:30	
+03:00	Moscow

Time difference	City/Region
+03:30	Teheran
+04:00	Abu Dhabi
+04:30	Kabul
+05:00	Islamabad
+05:30	Bombay
+06:00	Dacca
+06:30	Rangoon

Time difference	City/Region
+07:00	Bangkok
+07:30	
+08:00	Beijing
+08:30	
+09:00	Tokyo
+09:30	Darwin Islands
+10:00	Guam
+10:30	Lord Howe Island
+11:00	Solomon Islands
+11:30	Norfolk Islands
+12:00	New Zealand
+12:45	Chatham Islands
+13:00	
-12:00	Kwajalein Atoll
-11:30	
-11:00	Midway Islands
-10:30	
-10:00	Hawaii
-09:30	Marquesas Islands
-09:00	Alaska
-08:30	

Time difference	City/Region
-08:00	Los Angeles
-07:30	
-07:00	Denver
-06:30	
-06:00	Chicago
-05:30	
-05:00	New York
-04:30	
-04:00	Halifax
-03:30	Newfoundland
-03:00	Buenos Aires
-02:30	
-02:00	Central Atlantic time
-01:30	
-01:00	Azores
-00:30	

◆ **NOTE:**

- The clock is accurate to within about ±30 seconds a month with the power off.
- When the precise time is required, check and reset the time while the power is on.

## OPERATION

This menu allows you to set method for engaging search dial operations, maximum shuttle speed operation, maximum speed of FF and REW operation, NEXT and PREV seek operations, display of warning messages when REF.VIDEO is not connected, PLAY delay time, battery type, display of warnings when power is too low, voltage when the power supply is turned off.

\* An underlined **setting** indicates an initial value.

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
100	SEARCH ENA	<u>0000</u> 0001	<u>DIAL</u> KEY	Specifies method for transferring to the search mode (search dial operation). Specifies method for transferring to search dial operation. 0: Press the STILL button or turn the search dial to engage search dial operation. 1: Press the STILL button to engage search dial operation.
101	SHTL MAX	0000 <u>0001</u> 0002 0003 0004	×8 × <u>16</u> ×32 ×60 ×100	Sets the maximum shuttle speed operation. 0: 8× normal speed 1: 16× normal speed 2: 32× normal speed 3: 60× normal speed 4: 100× normal speed
102	FF.REW MAX	<u>0000</u> 0001 0002 0003	× <u>32</u> ×60 ×100 SEEK	Sets the maximum speed of FF and REW operation. 0: 32× normal speed 1: 60× normal speed 2: 100× normal speed 3: Seek operation to start of clip <b>NOTE:</b> • When SEEK is selected, FF and REW operations for FF and REW commands transferred via 9P and 1394 are performed at 100× normal speed. • The seek operation is available in STILL and STOP PB mode.

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
103	SEEK SEL	<u>0000</u> 0001	<u>CLIP</u> CLIP&T	Specifies where a NEXT(SHIFT+REW) and PREV(SHIFT+FF) seek operation moves to. 0: The start of the clip 1: The start of the clip or video text memo <b>NOTE:</b> This setting is not available during FF and REW operation.
104	REF ALARM	<u>0000</u> 0001	<u>OFF</u> ON	Selects whether or not a warning should appear when REF.VIDEO is not connected. 0: Displays no warning 1: Flashes the STOP lamp to warn
108	PLAY DELAY	<u>0000</u>   0015	<u>0</u>   15	Sets PLAY delay time in frame increments.
122	STOP EE SEL	<u>0000</u> 0001	<u>EE</u> PB	Specifies whether to invoke the EE mode or playback mode when STOP is pressed. 0: EE mode 1: Playback mode <b>NOTE:</b> During IEEE1394 signal input, the EE mode is invoked regardless of this menu setting.
155	AUTO REC	<u>0000</u> 0001 0002	<u>OFF</u> TYPE1 TYPE2	Select whether recording and stopping should be performed automatically according to the Recording Marks in the HD SDI input signals from Panasonic camera-recorders. 0: No automatic recording/stopping 1: Recording and stopping is performed automatically according to the Recording Marks in the LTC information attached to HD SDI signals. 2: Recording and stopping is performed automatically according to the Recording Marks in the SVITC information attached to HD SDI signals. <b>NOTE:</b> <ul style="list-style-type: none"> <li>Set the CONTROL switch to REMOTE. Refer to "Panasonic camera-recorders, recording formats and Recording Mark" on the next page before selecting TYPE1 or TYPE2.</li> <li>Select TYPE1 or TYPE2. To start automatic recording, simultaneously press the REC button and the STILL button to place this unit in the REC PAUSE mode. This function will not work in any mode other than REC PAUSE. The unit returns to REC PAUSE mode when automatic stop is activated.</li> <li>In normal recording mode, this setting is not available and auto stop is not activated.</li> </ul>
160	REPEAT PLAY	<u>0000</u> 0001	<u>OFF</u> ON	Determines whether or not to engage repeat play during playback. 0: Does not engage repeat play. Stops playback at the end of the last clip. 1: Engages repeat play. Continues playback from the beginning when reaching the end of the last clip. <b>NOTE:</b> <ul style="list-style-type: none"> <li>Repeat play is not available when the PLAYLIST button is on and during TEXT MEMO playback.</li> <li>If the P2 card is removed during repeat play, playback is suspended when playback reaches the clip that is no longer exists.</li> <li>Even if you insert a P2 card during repeat play, additional clips are not played back until you once stop repeat play and resume it.</li> </ul>
180	BATTERY SEL	<u>0000</u> 0001 0002 0003 0004 0005 0006	<u>NiCd12</u> NiCd13 NiCd14 S-LION I-LION TYPE-A TYPE-B	Sets the battery type. 0: Settings for 1 pc. 12 V battery (NEAR: 11.2 V, END: 10.6 V) 1: Settings for 1 pc. 13 V battery (NEAR: 12.0 V, END: 10.6 V) 2: Settings for 1 pc. 14 V battery (NEAR: 13.6 V, END: 10.6 V) 3: Settings for 1 pc. lithium-ion battery (NEAR: 11.0 V, END: 10.6 V) 4: Settings for 1 pc. lithium-ion battery (NEAR: 13.4 V, END: 10.6 V) 5: Battery specified by menu No. 181 TYPE-A NEAR item and No. 182 TYPE-A END item 6: Battery specified by menu No. 183 TYPE-B NEAR item and No. 184 TYPE-B END item

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
181	TYPE-A NEAR	0000   <u>0023</u>   0044	10.6   <u>12.9</u>   15.0	Specifies the voltage (in 0.1 V steps) when the counter display will flash to warn that the voltage of a TYPE-A battery selected in menu No. 180 BATTERY SEL item has dropped. <b>NOTE:</b> • When a setting is made in the vicinity of 15.0 V, the counter display may flash also when AC power is used. • A setting that is smaller than END cannot be made.
182	TYPE-A END	0000   <u>0018</u>   0034	10.6   <u>12.4</u>   14.0	Specifies the voltage (in 0.1 V steps) when this unit will automatically power off because the voltage of a TYPE-A battery selected in menu No. 180 BATTERY SEL item has dropped. <b>NOTE:</b> • A setting that is larger than NEAR cannot be made.
183	TYPE-B NEAR	0000   <u>0023</u>   0044	10.6   <u>12.9</u>   15.0	Specifies the voltage (in 0.1 V steps) when the counter display will flash to warn that the voltage of a TYPE-B battery selected in menu No. 180 BATTERY SEL item has dropped. <b>NOTE:</b> • When a setting is made in the vicinity of 15.0 V, the counter display may flash also when AC power is used. • A setting that is smaller than END cannot be made.
184	TYPE-B END	0000   <u>0018</u>   0034	10.6   <u>12.4</u>   14.0	Specifies the voltage (in 0.1 V steps) when this unit will automatically power off because the voltage of a TYPE-B battery selected in menu No. 180 BATTERY SEL item has dropped. <b>NOTE:</b> • A setting that is larger than NEAR cannot be made.

#### Panasonic camera-recorders, recording formats and Recording Mark

Model	Recording format	Recording Mark TYPE	Remarks
AJ-HDC27F,H	720/**p over 60p	TYPE1	
AJ-HDX400P	1080/59.94i	— *1	Provides switching between TYPE1 and TYPE2.
AJ-HDX400E	1080/50i	— *1	For operating details, see respective operating instructions.
	1080/25p over 50i	— *1	
AJ-HDX900	720/59.94p	TYPE1	
	720/23.98p over 59.94p	TYPE1	
	720/29.97p over 59.94p	TYPE1	
	1080/59.94i	— *1	
	1080/23.98p over 59.94i	TYPE2	
	1080/29.97p over 59.94i	— *1	
	1080/50i	— *1	
	1080/25p over 50i	— *1	
	720/50p	TYPE1	
	720/50p over 50p	TYPE1	
AG-HPX500	720/**p	TYPE1, 2	
AJ-HPX2100/2000	1080/**i	TYPE 2	

\*1: Recording Marks are not added to the HD SDI signal in default mode.



## INTERFACE

This menu specifies the ID data that will be returned to the controller.

\* An underlined **setting** indicates an initial value.

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
202	ID SEL	0000 <u>0001</u> 0002	OTHER <u>DVCPRO</u> ORIG	<p>Specifies the ID data that will be returned to the controller.</p> <p>0: OTHER 1: DVCPRO 2: ORIG</p> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>• Select [OTHER] for ID data for a VTR other than a DVCPRO.</li> <li>• Select [ORIG] only when specific Panasonic controllers (such as AJ-A850, separately sold accessory) are connected.</li> </ul>

## TIME CODE

This menu sets the time code.

\* An underlined **setting** indicates an initial value.

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
500	VITC BLANK	0000 <u>0001</u>	BLANK <u>THRU</u>	<p>Specifies whether or not a VITC signal will be output at the positions selected in menu No. 501 VITC POS-1 and No. 502 VITC POS-2 during playback.</p> <p>0: VITC signals are not output. 1: VITC signals are output.</p> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>• This setting is available only during analog composite output and SD SDI output.</li> <li>• In EE mode, the input signal is output with the VITC signal.</li> </ul>
501	VITC POS-1	When set to 59.94 Hz		<p>Specifies the position where the VITC signal will be inserted.</p> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>• You cannot select the same line as in menu No. 502 VITC POS-2.</li> <li>• This setting is available only during analog composite output and SD SDI output.</li> </ul>
		0000   <u>0006</u>   0010	10L   <u>16L</u>   20L	
		When set to 50 Hz		
		0000   <u>0004</u>   0015	7L   <u>11L</u>   22L	
502	VITC POS-2	When set to 59.94 Hz		<p>Specifies the position where the VITC signal will be inserted.</p> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>• You cannot select the same line as in menu No. 501 VITC POS-1.</li> <li>• This setting is available only during analog composite output and SD SDI output.</li> </ul>
		0000   <u>0008</u>   0010	10L   <u>18L</u>   20L	
		When set to 50 Hz		
		0000   <u>0006</u>   0015	7L   <u>13L</u>   22L	

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
504	RUN MODE	<u>0000</u> 0001	<u>REC</u> FREE	Specifies an operating mode that advances the internal time code generator. 0: The internal time code generator is advanced only during recording. 1: When the power is on, the internal time code generator is advanced regardless of operating mode.
505	TCG REGEN	<u>0000</u> 0001 0002	<u>TC&amp;UB</u> TC UB	Specifies the signal to regenerate when the time code generator (TCG) is in the REGEN mode. 0: Regenerates both the time code and the user bit 1: Regenerates only the time code 2: Regenerates only the user bit
507	EXT TC SEL	<u>0001</u> 0002 0003	<u>EXT L</u> SLTC SVITC	Specifies the time code used when an external time code is used. 0: LTC of the TIME CODE IN connector 1: LTC data attached to serial signal input to HD SDI IN 2: VITC data attached to serial signal input to HD SDI IN <b>NOTE:</b> When SLTC and SVITC are set, the VITC in the input video signal is used when an analog composite or SD SDI input signal is selected. When 1394 is selected as the input signal, the IEEE 1394 digital input signal time code is used regardless of this setting.
508	BINARY GP	<u>0000</u> 0001 0002 0003 0004 0005 0006 0007	<u>000</u> 001 010 011 100 101 110 111	Specifies user bit usage in time code generated by the TCG. 0: NOT SPECIFIED (character set not specified) 1: ISO CHARACTER (8-bit character set complying with ISO646 and ISO2022) 2: UNASSIGNED 1 (undefined) 3: UNASSIGNED 2 (undefined) 4: UNASSIGNED 3 (undefined) 5: PAGE/LINE 6: UNASSIGNED 4 (undefined) 7: UNASSIGNED 5 (undefined)
509	PHASE CORR	<u>0000</u> 0001	<u>OFF</u> ON	Specifies whether or not LTC output from the TIME CODE OUT connector should be phase controlled. 0: No phase control 1: Phase controlled
510	TCG CF FLAG	<u>0000</u> 0001	<u>OFF</u> ON	Sets the TCG CF flag. 0: OFF 1: ON
511	DF MODE	<u>0000</u> 0001	<u>DF</u> NDF	Sets the DF or NDF mode for CTL and TCG. 0: Uses drop frame mode. 1: Uses non-drop frame mode. <b>NOTE:</b> This menu is not displayed when 50 is selected in menu No. 25 SYSTEM FREQ.
512	TC OUT REF	<u>0000</u> 0001	<u>VOUT</u> TC_IN	Specifies how the phase is switched for the time code output by the TIME CODE OUT connector for the external LTC input when the TC INT/EXT switch is set to EXT. (only in EE mode) 0: Synchronized with output video signal. 1: Synchronized with the external time code input.
513	VITC OUT	<u>0000</u> 0001	<u>SBC</u> VAUX	Specifies how to output VITC that will be superimposed on the SD output video signal. 0: Outputs the time code recorded in the SBC area as VITC 1: Outputs the time code recorded in the VAUX area as VITC <b>NOTE:</b> • VITC data detected in the input video signal is automatically recorded in the VAUX area during video recording. • When CMPST and SDI are selected as input signals, VITC, which is output during recording, outputs a time code that is superimposed on the input signal regardless of above settings.
514	HD EMBD VITC	0000 <u>0001</u>	OFF <u>ON</u>	Specifies whether or not VITC data will be superimposed on HD SDI output. 0: Not superimposed 1: Superimposed

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
515	HD EMBD LTC	0000 <u>0001</u>	OFF <u>ON</u>	Specifies whether or not LTC data will be superimposed on HD SDI output. 0: Not superimposed 1: Superimposed
518	VITC GEN	<u>0000</u> 0001	<u>OFF</u> ON	Specifies whether or not the internal time code generator value should be recorded in the VAUX area. 0: The internal time code generator value is not recorded. Record the time code value when it is superimposed on input video signals. 1: The internal time code generator value is recorded. <b>NOTE:</b> When 1394 is selected as the input signal, the time code signal superimposed on the compressed input signal is recorded regardless of settings in this menu.
519	UB OUT SEL	0000 <u>0001</u>	SBC <u>F RATE</u>	Selects user bits in the LTC data output by the TIME CODE OUT and HD SDI connectors or user bits in the SBC area (DVCPRO HD only) output via the IEEE 1394 terminal during playback of clips in 720/24PN, 720/30PN and 720/25PN formats as well as optional AVC-Intra 1080/24PN, 30PN and 25PN clip formats. 0: Outputs the user bits recorded in the SBC area. 1: Outputs the frame rate information recorded in the VAVX area.

#### Definition of terms:

SBC (Sub Code Data) area: This area, which is separate from video and audio data area on a P2 card, stores SMPTE/EBU compliant time code, recording dates and other information.

VAUX (Video Auxiliary Data) area: An area in the video data area on a P2 card that stores additional information on video data.

## VIDEO

This menu is used for video settings.

\* An underlined **setting** indicates an initial value.

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
601	VIDEO INT SG	<u>0000</u> 0001 0002 0003 0004	<u>100%CB</u> 75%CB SMPTE ARIB BLACK	Sets the internal signal type. SMPTE and ARIB signals are available in HD mode only (black in SD mode). 0: 100% color bar 1: 75% color bar 2: SMPTE color bar 3: ARIB color bar 4: Black
602	SDI IN MODE	<u>0000</u> 0001	<u>DR OFF</u> DR ON	Specifies the method for processing HD SDI input. (Available only for DVCPRO HD) 0: Records the 8 higher bits after rounding up the two lowest bits. 1: Records the signal with 8 higher bits, obtained by dynamic rounding. <b>NOTE:</b> Records 8 high-order bit signals after rounding off the 2 low-order bits during SD SDI input.
620	DOWNCON MODE	<u>0000</u> 0001 0002	<u>CROP</u> LT-BOX SQUEEZ	Specifies the picture angle during down-conversion. 0: Side cut mode 1: Letter box mode 2: Squeeze mode
621	UPCONV MODE	<u>0000</u> 0001 0002	<u>S-PANL</u> CROP STRECH	Specifies the picture angle during up-conversion. 0: Side panel mode 1: Top and bottom cut in vertical direction 2: Stretch mode

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
626	D/C ENH H	0000 <u>0001</u>	0dB <u>+1dB</u>	Specifies whether or not horizontal outlines be emphasized in down-conversion. 0: 0dB 1: +1dB
627	D/C ENH V	0000 <u>0001</u>	0dB <u>+1dB</u>	Specifies whether or not vertical outlines be emphasized in down-conversion. 0: 0dB 1: +1dB
643	OUT MODE SEL	When set to 59.94 Hz		Specifies the video signal output from the video output connector. 0: Switches output automatically depending on current recording and playback format. 1: 1080/59.94i or 1080/50i 2: 720/59.94p or 720/50p 3: 480/59.94i or 576/50i <b>NOTE:</b> When something other than AUTO is selected, a signal that differs from the recording and playback format is automatically converted before output.
		<u>0000</u>	<u>AUTO</u>	
		0001	1080i	
		0002	720p	
		When set to 50 Hz		
		<u>0000</u>	<u>AUTO</u>	
		0001	1080i	
		0002	720p	
		0003	576i	
645	WIDE SELECT	0001 <u>0002</u>	WIDE <u>NORMAL</u>	Specifies whether or not WIDE data be recorded when 480i or 576i is selected in menu No. 020 SYS FORMAT. 1: Recorded 2: Not recorded <b>NOTE:</b> When 1394 is selected as the input signal, input data is recorded in its original form.
650	STYLE	0000 <u>0001</u>	CMPNT <u>CMPST</u>	Sets the level adjustment mode. 0: Level adjustment mode for the component style 1: Level adjustment mode for the composite style
651	HUE STYLE(SD)	0000 <u>0001</u>	Pb-Pr <u>U-V</u>	Specifies the rotational axis of chroma phase adjustment. 0: Rotates in a perfect circle in an SDI (component style) vectorscope. 1: Rotates in a perfect circle in an analog (composite style) vectorscope. <b>NOTE:</b> This menu is not displayed when 50 is selected in menu No. 25 SYSTEM FREQ.
653	Y LVL (HD)	0000	0.0%	Adjusts the Y level of HD SDI and HD analog component output (– ∞ to 0 dB to +3 dB). <b>NOTE:</b> This setting is available when CMPNT is set in menu No. 650 STYLE.
		<u>1000</u>	<u>100.0%</u>	
		1413	141.3%	
654	Pb LVL (HD)	0000	0.0%	Adjusts the PB level of HD SDI and HD analog component output (– ∞ to 0 dB to +3 dB). <b>NOTE:</b> This setting is available when CMPNT is set in menu No. 650 STYLE.
		<u>1000</u>	<u>100.0%</u>	
		1413	141.3%	
655	Pr LVL (HD)	0000	0.0%	Adjusts the PR level of HD SDI and HD analog component output (– ∞ to 0 dB to +3 dB). <b>NOTE:</b> This setting is available when CMPNT is set in menu No. 650 STYLE.
		<u>1000</u>	<u>100.0%</u>	
		1413	141.3%	
656	BK LVL (HD)	0050	–10.0%	Adjusts the black level of HD SDI and HD analog component output. <b>NOTE:</b> This setting is available when CMPNT is set in menu No. 650 STYLE.
		<u>0150</u>	<u>0.0%</u>	
		0250	+10.0%	
658	Y LVL(SD)	0000	0.00%	Adjusts the Y level of SD SDI and analog composite output (– ∞ to 0 dB to +3 dB). <b>NOTE:</b> This setting is available when CMPNT is set in menu No. 650 STYLE.
		<u>1000</u>	<u>100.00%</u>	
		1413	141.30%	

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
659	Pb LVL(SD)	0000   <u>1000</u>   1413	0.0%   <u>100.0%</u>   141.3%	Adjusts the PB level of SD SDI and analog composite output (–∞ to 0 dB to +3 dB). <b>NOTE:</b> This setting is available when CMPNT is set in menu No. 650 STYLE.
660	Pr LVL(SD)	0000   <u>1000</u>   1413	0.0%   <u>100.0%</u>   141.3%	Adjusts the PR level of SD SDI and analog composite output (–∞ to 0 dB to +3 dB). <b>NOTE:</b> This setting is available when CMPNT is set in menu No. 650 STYLE.
661	BK LVL(SD)	0050   <u>0150</u>   0250	–10.0%   <u>0.0%</u>   +10.0%	Adjusts the black level of SD SDI and analog composite output. <b>NOTE:</b> This setting is available when CMPNT is set in menu No. 650 STYLE.
662	V LEVEL	0000   <u>1000</u>   2000	0.0%   <u>100.0%</u>   200.0%	Adjusts the video level (–∞ to 0 dB to +6 dB). <b>NOTE:</b> • This setting is available when CMPST is set in menu No. 650 STYLE. • Video output level adjustment is available only for output.
663	C LEVEL	0000   <u>1000</u>   1413	0.0%   <u>100.0%</u>   141.3%	Adjusts the chroma level (–∞ to 0 dB to +3 dB). <b>NOTE:</b> • This setting is available when CMPST is set in menu No. 650 STYLE. • Chroma level adjustment is available only for output.
664	HUE/C PHASE	0000   <u>0062</u>   0124	–31.0   <u>0.0</u>   31.0	Adjusts chroma phase (approximately –30 to +30°) <b>NOTE:</b> • This setting is available when CMPST is set in menu No. 650 STYLE. • Chroma phase level adjustment is available only for output.
665	SETUP/BK LVL	0050   <u>0150</u>   0250	–10.0%   <u>0.0%</u>   +10.0%	Adjusts setup level. <b>NOTE:</b> • This setting is available when CMPST is set in menu No. 650 STYLE. • Setup level adjustment is available only for output.
669	SETUP	0000 <u>0001</u>	THRU <u>CUT&amp;AD</u>	Specifies recording and output method for analog composite signals. 0: Records the input signal in its original form and outputs it without setup. 1: Records the signal with the 7.5% setup processing removed and outputs it with the 7.5% setup added. <b>NOTE:</b> This menu is not displayed when 50 is selected in menu No. 25 SYSTEM FREQ.
673	CONTRAST	0000   <u>0030</u>   0060	–30   <u>0</u>   30	Adjusts LCD monitor contrast.
676	BLK CLIP	<u>0000</u> 0001	<u>OFF</u> ON	Specifies whether or not to clip signals below pedestal level for SD SDI and analog composite output Y (luminance) signals. 0: Does not clip the signal 1: Clips the signal

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
677	LCD ASPECT	<u>0000</u> 0001 0002 0003	<u>AUTO</u> 4:3 16:9 15:9	Specifies the aspect ratio of image displayed on the LCD panel. 0: Switches aspect ratio automatically. 1: Displays 480i or 576i images in the 4:3 aspect ratio. (Displays 1080i or 720p video in the 16:9 aspect ratio.) 2: Displays images in the 16:9 aspect ratio. 3: Displays images in the 15:9 aspect ratio. <b>NOTE:</b> Since the LCD monitor on this unit has an aspect ratio of 15:9, a black border may appear above and below the picture in AUTO or 16:9 mode.
680	CC (F1) BLANK	0000 <u>0001</u>	BLANK <u>THRU</u>	Turns on and off closed caption signals in the first field output from the SD SDI and analog composite output. 0: Signals are forcibly blanked. 1: Signals are not blanked. <b>NOTE:</b> • This menu is not displayed when 50 is selected in menu No. 25 SYSTEM FREQ. • In EE mode, the closed captions are output with the VITC signal.
681	CC (F2) BLANK	0000 <u>0001</u>	BLANK <u>THRU</u>	Turns on and off closed caption signals in the second field output from the SD SDI and analog composite output during playback. 0: Signals are forcibly blanked. 1: Signals are not blanked. <b>NOTE:</b> • This menu is not displayed when 50 is selected in menu No. 25 SYSTEM FREQ. • In EE mode, the closed captions are output with the VITC signal.
684	EDH(SD)	0000 <u>0001</u>	OFF <u>ON</u>	Specifies whether or not EDH is superimposed on serial output signals. 0: Signals are not superimposed. 1: Signals are superimposed.
685	ESR MODE(SD)	0000 <u>0001</u>	OFF <u>AUTO</u>	Specifies the operating mode for edge subcarrier reduction (ESR) in the playback circuit. 0: ESR is forcibly set to off. 1: ESR is automatically turned on and off depending on operating mode. <b>NOTE:</b> • This menu is not displayed when 50 is selected in menu No. 25 SYSTEM FREQ.
688	CC REC	0000 <u>0001</u>	OFF <u>ON</u>	Specifies whether or not the closed caption signal that is superimposed on the SD SDI and analog composite input signals will be recorded. 0: Not recorded. The EE output is also blanked. 1: A closed caption signal that is superimposed on an input signal is recorded. <b>NOTE:</b> • This menu is not displayed when 50 is selected in menu No. 25 SYSTEM FREQ. • When 1394 is selected as the input signal, the closed caption signal superimposed on the compressed input signal is recorded in its original form regardless of settings in this menu.
689	COMP MODE	<u>0000</u> 0001	<u>NORMAL</u> DARK	Selects the compression method used during video recording. 0: Records using normal compression processing. 1: Records video suppressing compression video distortion that is generated by dark areas that are about 10 IRE (70 mV) or less. <b>NOTE:</b> This setting is available in DVCPRO HD 720p mode recording.
690	UMID REC	0000 <u>0001</u>	OFF <u>ON</u>	Specifies whether or not UMID data should be recorded. 0: UMID data is not recorded. 1: Recorded.
691	UMID GEN	0000 <u>0001</u>	INT <u>EXT</u>	Specifies the generation method of UMID information that is recorded when menu No. 690 UMID REC is set to on. 0: Newly created UMID information is always recorded. 1: Records UMID data superimposed on the input signal. Newly created UMID information is recorded when not superimposed on an input signal.

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
692	UMID POS	0000 0001 : <u>0006</u> : 0008	BLANK 12L : <u>17L</u> : 19L	<p>Specifies the line that superimposes UMID data.</p> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>You cannot select the same line as in menu No. 501 VITC POS-1 and No. 502 VITCPOS-2.</li> <li>Holding down the SHIFT button and pressing the RESET button will not restore the factory defaults.</li> <li>UMID data is output before recorded VANC data. To output VANC data, set UMID POS to a line other than that which superimposed the data or select "BLANK."</li> <li>During playback of native clip, UMID becomes BLANK.</li> </ul>

## AUDIO

This menu is used for audio settings.

\* An underlined **setting** indicates an initial value.

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
701	CH1 IN LV	0000 <u>0001</u> 0002 0003	4dB <u>0dB</u> -3dB -20dB	Specifies the standard level for audio input (CH1).
702	CH2 IN LV	0000 <u>0001</u> 0002 0003	4dB <u>0dB</u> -3dB -20dB	Specifies the standard level for audio input (CH2).
703	CH3 IN LV	0000 <u>0001</u> 0002 0003	4dB <u>0dB</u> -3dB -20dB	Specifies the standard level for audio input (CH3).
704	CH4 IN LV	0000 <u>0001</u> 0002 0003	4dB <u>0dB</u> -3dB -20dB	Specifies the standard level for audio input (CH4).
706	CH1 OUT LV	0000 <u>0001</u> 0002 0003	4dB <u>0dB</u> -3dB -20dB	Specifies the standard level for audio output (CH1).
707	CH2 OUT LV	0000 <u>0001</u> 0002 0003	4dB <u>0dB</u> -3dB -20dB	Specifies the standard level for audio output (CH2).
708	CH3 OUT LV	0000 <u>0001</u> 0002 0003	4dB <u>0dB</u> -3dB -20dB	Specifies the standard level for audio output (CH3).
709	CH4 OUT LV	0000 <u>0001</u> 0002 0003	4dB <u>0dB</u> -3dB -20dB	Specifies the standard level for audio output (CH4).

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
725	REC CH1	<u>0000</u> 0001 0002 0003 0004 0005	<u>CH1</u> CH2 CH3 CH4 CH1+2 CH3+4	Specifies the input signal to be recorded on the audio CH1. 0: Audio input CH1 signal 1: Audio input CH2 signal 2: Audio input CH3 signal 3: Audio input CH4 signal 4: Mixed audio input CH1 and CH2 signal 5: Mixed audio input CH3 and CH4 signal
726	REC CH2	0000 <u>0001</u> 0002 0003 0004 0005	CH1 <u>CH2</u> CH3 CH4 CH1+2 CH3+4	Specifies the input signal to be recorded on the audio CH2. 0: Audio input CH1 signal 1: Audio input CH2 signal 2: Audio input CH3 signal 3: Audio input CH4 signal 4: Mixed audio input CH1 and CH2 signal 5: Mixed audio input CH3 and CH4 signal
727	REC CH3	0000 0001 <u>0002</u> 0003 0004 0005	CH1 CH2 <u>CH3</u> CH4 CH1+2 CH3+4	Specifies the input signal to be recorded on the audio CH3. 0: Audio input CH1 signal 1: Audio input CH2 signal 2: Audio input CH3 signal 3: Audio input CH4 signal 4: Mixed audio input CH1 and CH2 signal 5: Mixed audio input CH3 and CH4 signal
728	REC CH4	0000 0001 0002 <u>0003</u> 0004 0005	CH1 CH2 CH3 <u>CH4</u> CH1+2 CH3+4	Specifies the input signal to be recorded on the audio CH4. 0: Audio input CH1 signal 1: Audio input CH2 signal 2: Audio input CH3 signal 3: Audio input CH4 signal 4: Mixed audio input CH1 and CH2 signal 5: Mixed audio input CH3 and CH4 signal
731	PB FADE	<u>0000</u> 0001	<u>AUTO</u> CUT	Specifies audio processing to be performed between clips and edit points created using play list or edit copy. 0: Depends on recording status. (Refer to the section "Audio V Fade Function" (page 135).) 1: Forcible cut. <b>NOTE:</b> The IEEE1394 connector output is forcibly cut also in the AUTO setting.
732	EMBEDDED AUD	0000 <u>0001</u>	OFF <u>ON</u>	Specifies whether or not audio data will be superimposed on HD SDI output and SD SDI output. 0: Audio data is not superimposed. 1: Audio data is superimposed.
775	25M REC CH	<u>0000</u> 0001	<u>2CH</u> 4CH	Specifies the number of audio channels that will be used for DVCPRO (25 Mbps) or DV (25 Mbps) recording. 0: Does not supply microphone current. 1: Records on four channels. <b>NOTE:</b> DVCPRO HD, AVC-Intra50 (option) and AVC-Intra100 (option) always record on 8 channels, and DVCPRO50 always records on 4 channels.
776	REF LEVEL	For AJ-HPM100P		
		<u>0000</u> 0001 0002	<u>FS-20</u> FS-18 FS-12	Specifies the standard level. 0: 20 dB 1: 18 dB 2: 12 dB
		For AJ-HPM100E		
		0000 <u>0001</u> 0002	FS-20 <u>FS-18</u> FS-12	



Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
777	CH2 MIC PWR	0000 <u>0001</u>	OFF <u>ON</u>	Turns on and off the CH2 microphone power supply. 0: Does not use the microphone power supply. 1: Uses the jack switch to turn the microphone power supply on and off.
785	PB MIX	<u>0000</u> 0001	<u>OFF</u> ON	Sets a mix of analog and SDI audio output. <b>NOTE:</b> Press the STOP or SET button to open a subscreen and select the channels used in mixing audio output. To exit the subscreen, press the STOP or SET button again.
Subscreen				
01	PB CH1	<u>0000</u> 0001 0002	<u>CH1</u> CH1+2 CH1+3	Specifies the playback channels that will be output via CH1.
02	PB CH2	<u>0000</u> 0001 0002	<u>CH2</u> CH1+2 CH2+4	Specifies the playback channels that will be output via CH2
03	PB CH3	<u>0000</u> 0001 0002	<u>CH3</u> CH3+4 CH1+3	Specifies the playback channels that will be output via CH3.
04	PB CH4	<u>0000</u> 0001 0002	<u>CH4</u> CH3+4 CH2+4	Specifies the playback channels that will be output via CH4.
790	VOL SEL	<u>0000</u> 0001	<u>CH1-4</u> CH1-8	Specifies operation of the recording level controls. 0: CH1 to CH4 only are variable, CH5 to CH8 are UNITY level. 1: In addition to CH1 to CH4, which are variable, CH5 to CH8 also become variable, being linked to CH1 to CH4 operation.
792	A DUB CH	0000 <u>0001</u> 0002 0003 0004 0005	CH1 <u>CH2</u> CH3 CH4 CH1+2 CH3+4	Specifies tracks to be used for voice-overs.
793	A DUB PB MIX	<u>0000</u> 0001	<u>OFF</u> ON	Specifies whether or not the playback sound be mixed in the voice-over. 0: Playback sound is not mixed. 1: The input and playback sound are mixed in the recording. <b>NOTE:</b> Press the STOP or SET button to open the subscreen to select the channels that will be mixed. To exit the subscreen, press the STOP or SET button again.
Subscreen				
01	CH1 MIX	<u>0000</u> 0001 0002 0003	<u>CH1</u> CH2 CH3 CH4	Specifies the playback channels that will be mixed and recorded on CH1.
02	CH2 MIX	0000 <u>0001</u> 0002 0003	CH1 <u>CH2</u> CH3 CH4	Specifies the playback channels that will be mixed and recorded on CH2.
03	CH3 MIX	0000 0001 <u>0002</u> 0003	CH1 CH2 <u>CH3</u> CH4	Specifies the playback channels that will be mixed and recorded on CH3.
04	CH4 MIX	0000 0001 0002 <u>0003</u>	CH1 CH2 CH3 <u>CH4</u>	Specifies the playback channels that will be mixed and recorded on CH4.

## DIF

This menu is used for setting up the digital video interface.

\* An underlined **setting** indicates an initial value.

Item		Setting		Settings and brief function description
FR No.	SUPER DISP.	FR No.	SUPER DISP.	
880	DIF SPEED	0000 0001 <u>0002</u>	S100 S200 <u>S400</u>	Specifies the transfer speed of digital video interface output. 0:100 Mbps 1:200 Mbps 2:400 Mbps <b>NOTE:</b> A DVCPRO HD format signal cannot be output when S100 is selected.
882	DIF IN CH	0000   0063 <u>0064</u>	0   63 <u>AUTO</u>	Specifies input channels. 0 - 63: These channels are fixed to assigned values. 64: This channel is not fixed to assigned values. When the power is on, the input channel is initialized to 63.
883	DIF OUT CH	0000   0063 <u>0064</u>	0   63 <u>AUTO</u>	Specifies output channels. 0 - 63: These channels are fixed to assigned values. 64: This channel is not fixed to assigned values. When the power is on, the output channel is initialized to 63.
886	DIF CONFIG	<u>0000</u> 0001   0255	<u>DFLT</u> 1   255	Specifies the extension menu. Normally, DFLT is used.
890	DIF AUD OUT	<u>0000</u> 0001	<u>CH1+2</u> CH3+4	Specifies the output channels when the audio signals are in 4-channel mode and output in the DVCPRO (25 Mbps) format and a DV clip is played back. 0: CH1 and CH2 1: CH3 and CH4

## MENU

This menu is used for menu settings.

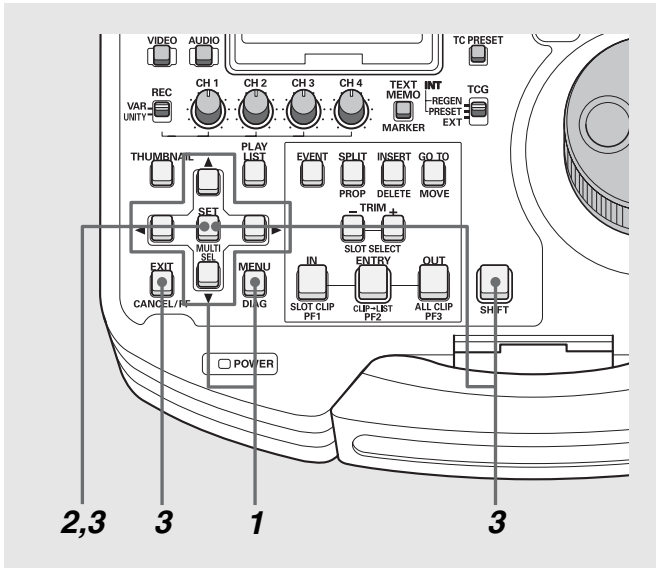
\* An underlined **setting** indicates an initial value.

Item		Setting		Settings and brief function description	Remarks
FR No.	SUPER DISP.	FR No.	SUPER DISP.		
A00	LOAD	<u>0000</u> 0001 0002 0003	<u>USER2</u> USER3 USER4 USER5	Specifies user files loaded in USER 1. 0: Loads the contents of USER 2 1: Loads the contents of USER 3 2: Loads the contents of USER 4 3: Loads the contents of USER 5 <b>NOTE:</b> Pressing the MENU button when loading completes opens a confirmation screen. Press the SET button to store the setting. Press the EXIT button to discard the change and retain the setting.	Setting available for USER1 only

Item		Setting		Settings and brief function description	Remarks
FR No.	SUPER DISP.	FR No.	SUPER DISP.		
A01	SAVE	<u>0000</u> 0001 0002 0003 0004	<u>USER2</u> USER3 USER4 USER5 LOCKED	Specifies the user file that saves USER 1 settings. 0: Saved to USER 2 1: Saved to USER 3 2: Saved to USER 4 3: Saved to USER 5 4: Appears when all user files are write protected. <b>NOTE:</b> • A user file in change prohibit status cannot be selected. • When all user files are in the change prohibit status, "LOCKED" appears and data cannot be saved.	Setting available for USER1 only
A02	P.ON LOAD	<u>0000</u> 0001 0002 0003 0004	<u>OFF</u> USER2 USER3 USER4 USER5	Specifies which user files will be loaded into USER 1 and whether or not the USER 1 settings should be used in startup when the power is turned on. 0: Operation is started with the settings of the previously set user file. 1: The content of USER 2 is loaded into USER 1. 2: The content of USER 3 is loaded into USER 1. 3: The content of USER 4 is loaded into USER 1. 4: The content of USER 5 is loaded into USER 1.	Setting available for USER1 only
A03	MENU LOCK	<u>0000</u> 0001	<u>OFF</u> ON	Sets/releases the user file (USER2 - USER 5) lock mode. 0: Releases the lock. (File data can be changed.) 1: Lock is engaged. (File data cannot be changed.) <b>NOTE:</b> • USER 1 cannot be locked. • Files can be loaded from the SD card even if they are locked. The status after load operation depends on the setting defined by the loaded data.	Setting available for USER2 to USER5 only
A04	PF1 ASSIGN			Registers a setup menu item in the PF1 button.	
A05	PF2 ASSIGN			Registers a setup menu item in the PF2 button.	
A06	PF3 ASSIGN			Registers a setup menu item in the PF3 button.	
A10	CARD READ			Select files from the four SD memory card files to load into the menu. This function is available only to USER 1-5 (SYSTEM) and USER 1-5.	Setting available for USER1 only
A11	CARD WRITE			Select one of the four files on an SD memory card to write a menu setting. The write function is available only to USER 1-5 (SYSTEM). Titles can be added to the files and the files can be edited.	Setting available for USER1 only
A12	CARD FORMAT			Formats SD memory cards.	Setting available for USER1 only

## Saving Menu Settings to SD Memory Cards

Use the steps below to write SETUP menu settings to or load from SD memory cards. The unit can handle up to four files and enables the input of titles.



### CARD READ

**1** Press the MENU button, select A10 CARD READ from USER1 in the SETUP menu and press the SET button.

**2** Select the files to be read in the file menu that appears and press the SET button.

- Files that are not written are indicated as [NO FILE].
- “NO CARD” is indicated when no SD memory card is inserted.

```

SETUP-MENU
SD CARD READ
 01 FILE1 1080_60I
 02 FILE2 720_60P
 * 03 FILE3 480_50I
 04 NO FILE
END
    
```

**3** Press the button with the desired function (see below) in the load confirmation screen that appears.

SET button: Loads all SYSTEM settings and USER 1-5 data

SHIFT + SET buttons: Loads USER 1-5 data only

EXIT: Cancels loading and returns to the previous screen

**4** A completion message appears when the load progress bar closes.

```

SETUP-MENU
SD CARD READ
FILE3 480_50I

READ OK
    
```

### CARD WRITE

**1** Press the MENU button, select A11 CARD WRITE from USER1 in the SETUP menu and press the SET button.

**2** Select the files to be written in the file menu that appears and press the SET button.

- Files that are not written are indicated as [NO FILE].
- “NO CARD” is indicated when no SD memory card is inserted.

**3** In the write confirmation screen that appears, select SET to write or EXIT to cancel writing and return to the previous screen.

- You can edit the title before writing the file. Enter text at the flashing cursor that indicates the title.

▲▼ (Up/Down cursors): Select text

◀▶ (Right and left cursors): Move cursor location

RESET button: Clears all text

- A completion message appears when the write progress bar closes.

```

SETUP-MENU MENU
SD CARD WRITE
FILE4 _TITLE4

SYSTEM+USER → FILE4 OK?

YES<SET>/NO<EXIT>
    
```

### FORMAT

**1** Press the MENU button, select A12 CARD FORMAT from USER1 in the SETUP menu and press the SET button.

**2** The format confirmation screen appears.

- Press the SET button to start formatting.
- To cancel formatting and return to the previous screen, press the EXIT button.

**3** A completion message appears when the format progress bar closes.

# Time Code, User Bit and CTL

## Time code

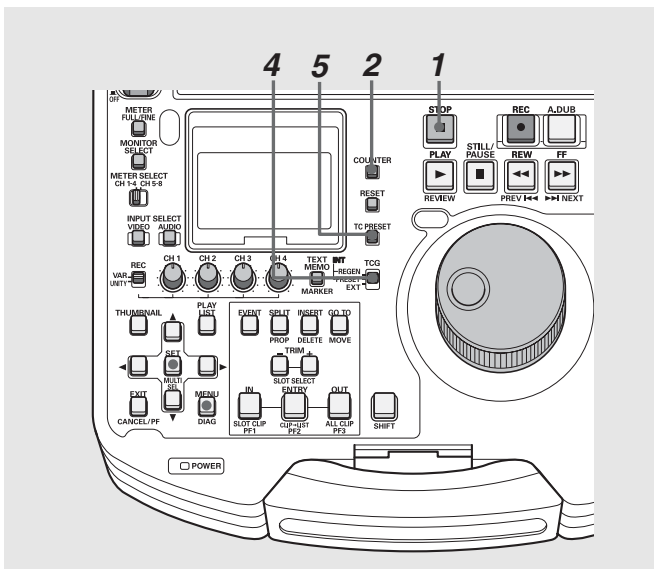
The time code is used when the time code signal generated by the time code generator is to be recorded. The time code values are indicated on the display and in the superimpose display.

TCR	00:	07:	04:	24
	↑	↑	↑	↑
	Hours	Minutes	Seconds	Frames

## User bit

User bit refers to the 32-bit (8 digits) data frame of the time code signal made available to users. It allows you to record operator numbers and other values. The alphanumeric characters that can be used in the user bit are the figures from 0 - 9 and the letters A to F.

## Setting the internal time code



**1** Engage the stop mode.

**2** Use the COUNTER button to select [TC].

**3** Use the setup menu No. 504 (RUN MODE) to set the run mode for the time code generator.

REC: The internal time code generator advances during recording.

FREE: The internal time code generator advances regardless of operating mode when the power is on.

**4** Set the TCG switch to PRESET mode.

INT-REGEN: This mode maintains the continuity with the time code last recorded on a P2 card.

INT-PRESET: Starts recording from the value set with the TC PRESET button.

EXT: Records according to external TC input.

**5** Use the TC PRESET button to set the start number of the time code or user bit.

**1.** Press the TC PRESET button.

The left-most digit starts flashing.

**2.** Press the UP (▲) or DOWN (▼) button or hold down the STILL (■) button and turn the search dial to change the value.

**3.** Press the LEFT (◀) or RIGHT (▶) button or turn the search dial to select digit to set.

The selected digits start flashing.

The setting ranges are as follows:

Time code:	[59.94 Hz]
	00:00:00:00-23:59:59:29

[50 Hz]

00:00:00:00-23:59:59:24

User bit	00000000-FF FF FF FF
----------	----------------------

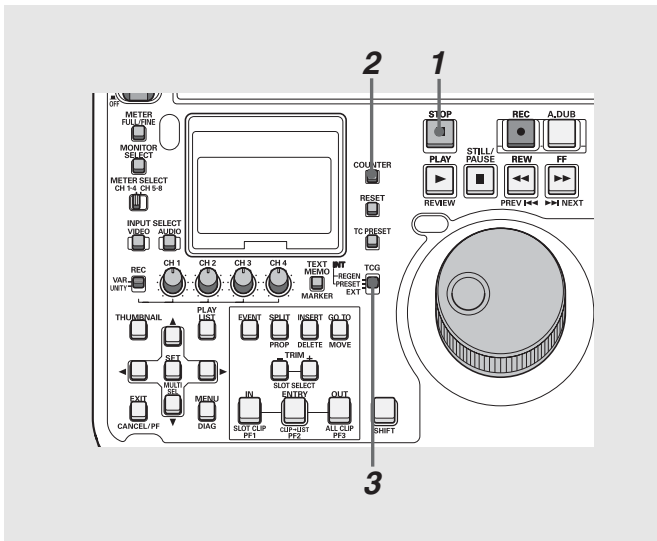
**4.** Repeat steps 2 - 3 to change other values.

Pressing the RESET button resets the preset value to 0.

**5.** When the start number is set, press the SET button.

The time code starts to advance when [FREE] is set in step 3.

## Setting the external time code



1 Engage the stop mode.

2 Use the COUNTER button to select [TC].

3 Set the TCG switch to [EXT].  
(External time code selection)

4 Make the following settings in setup menu No. 507 (EXT TC SEL).

EXT\_L: The LTC signal input to the TIME CODE IN connector (BNC) on the rear panel is recorded as TC.

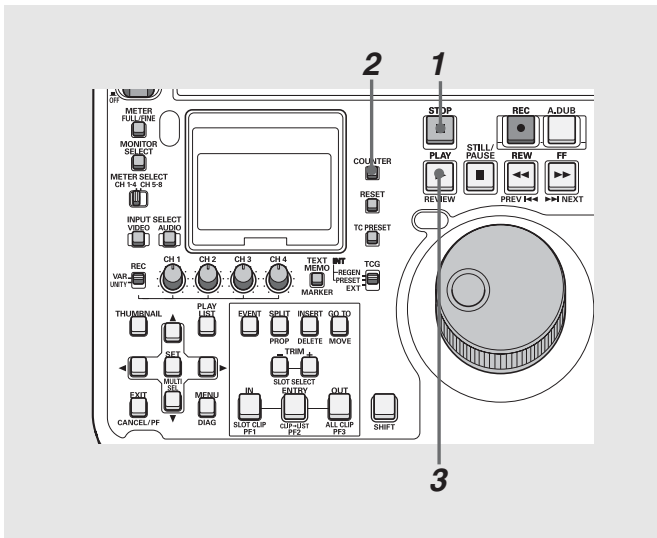
SVITC: The VITC signal attached to the serial signal input to the SDI IN (HD) connector is recorded as a time code.

SLTC: The LTC signal attached to the serial signal input to the SDI IN (HD) connector is recorded as a time code.

### ◆ NOTE:

- When SLTC and SVITC is set and an analog composite or SD SDI input signal is selected, the VITC on the input video signal is recorded. When 1394 is selected as the input signal, the IEEE 1394 digital input signal time code is recorded.

## Reproducing the time code and user bit

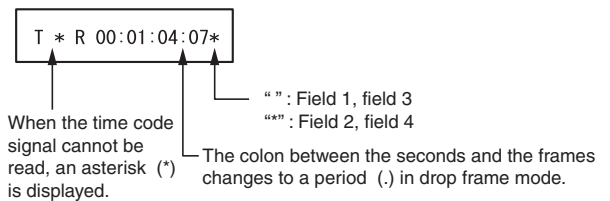


1 Engage the stop mode.

2 Use the COUNTER button to select [TC] or [UB].

3 Press the PLAY button.

Playback starts and the time code appears on the display. When the SUPER switch is set to [ON], the time code is superimposed on the monitor.



### ■ Time code when no power is supplied

Also when no power is supplied, the backup function works enabling the time code generator to provide long-term (about one year) operation. Accuracy when no power is supplied is about  $\pm 30$  s per month.

### ◆ NOTE:

- Under the conditions listed below when the time code generator advances regardless of operation mode, the backup function is enabled
  - When the TCG switch on the front panel is set to “PRESET” and menu No. 504 RUN MODE is set to “FREE.”
  - When the TCG switch on the front panel is set to “EXT” and the external time code set in menu No. 507 EXT TC SEL is disconnected from connector on the rear panel.
- When settings in menu No. 25 SYSTEM FREQ are revised, advance data is cleared.

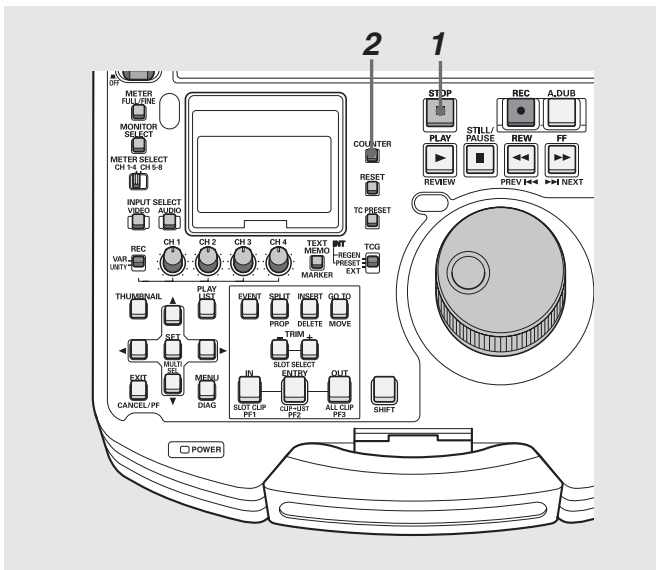
TCG switch	Menu No. 507 EXT TC SEL	Menu No. 518 VITC GEN	Selected video input signal	Recorded time code	
				SBC area	VAUX area
INT (REGEN / PRESET)	---	OFF	1394	Internal TCG value	Time code on IEEE1394 digital input (VAUX area)
			HD SDI		SVITC on input video signal *3
			CMPST / SD SDI		VITC on input video signal *3
		ON	1394		Time code on IEEE1394 digital input (VAUX area)
			HD SDI		Internal TCG value
			CMPST / SD SDI		
EXT	EXT_L	OFF	1394	Time code on IEEE1394 digital input (SBC area)	
			HD SDI	Time code on TIME CODE IN connector input *1	SVITC on input video signal *3
			CMPST / SD SDI		VITC on input video signal *3
		ON	1394	Time code on IEEE1394 digital input (SBC area)	Time code on IEEE1394 digital input (VAUX area)
			HD SDI	Time code on TIME CODE IN connector input *1	
			CMPST / SD SDI		
	SLTC	OFF	1394	Time code on IEEE1394 digital input (SBC area)	Time code on IEEE1394 digital input (VAUX area)
			HD SDI	SLTC on input video signal *2	SVITC on input video signal *3
			CMPST / SD SDI	VITC on input video signal *2	VITC on input video signal *3
		ON	1394	Time code on IEEE1394 digital input (SBC area)	Time code on IEEE1394 digital input (VAUX area)
			HD SDI	SLTC on input video signal *2	
			CMPST / SD SDI	VITC on input video signal *2	
SVITC	OFF	1394	Time code on IEEE1394 digital input (SBC area)	Time code on IEEE1394 digital input (VAUX area)	
		HD SDI	SVITC on input video signal *2	SVITC on input video signal *3	
		CMPST / SD SDI	VITC on input video signal *2	VITC on input video signal *3	
	ON	1394	Time code on IEEE1394 digital input (SBC area)	Time code on IEEE1394 digital input (VAUX area)	
		HD SDI	SVITC on input video signal *2		
		CMPST / SD SDI	VITC on input video signal *2		

\*1: The internal TCG value is used when a signal cannot be detected from the TIME CODE IN connector input.

\*2: The internal TCG value is used when the SLTC, SVITC and VITC cannot be detected on the input video signal.

\*3: Nothing is recorded if the SVITC and VITC cannot be detected on the input video signal.





**1** Engage the stop mode.

**2** Use the COUNTER button to select [CTL].

During playback, the counter displays the play position relative to the start position.

Recording starts from the counter value [0:00:00:00].

When recording stops, the counter shows the position relative to the start position.



# Audio V Fade Function

This section describes the differences between audio processing provided by setup menu No. 731 (PB FADE) settings. Setup menu No. 731 (PB FADE) settings make it possible to perform audio V fade or cut processing between clips and events during clip selection and playback or play list playback.

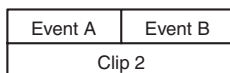
Described below are examples that illustrate the differences in processing.

These examples involve a clip that spans multiple P2 cards and a second clip generated by edit copy.

- A clip that spans multiple P2 cards or a clip that has been automatically divided and recorded on an 8 GB P2 card

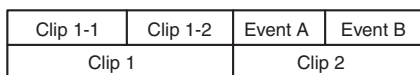


- A clip created using the edit copy function on an AJ-SPD850



Settings in setup menu No.731 allow you to play back the above two clips and do the following.

- When CUT is selected



Noise appears at the edit points.

- When AUTO is selected



V fade is performed instantaneously to remove noise.

V fade processing is performed automatically between clips and events.

The following items are not V fade processed.

- Clips that span multiple P2 cards
- Clips that have been automatically divided when using 8 GB or larger P2 cards
- 1394 digital output signals are not fade processed.

# Audio Recording Channels Selection

## Audio Recording Channels

Depending on setup menu 725 - 728 (REC CH1 to 4) settings, the INPUT SELECT button on the front panel allows you to select the following input signals. When 1394 is selected, the input signal is recorded in its original form regardless of setting.

### Analog input

Recorded track	Recorded signal
CH1	CH1 input/CH2 input/CH1 + CH2 inputs
CH2	CH1 input/CH2 input/CH1 + CH2 inputs
CH3	CH3 input/CH4 input/CH3 + CH4 inputs
CH4	CH3 input/CH4 input/CH3 + CH4 inputs
CH5	No
CH6	No
CH7	No
CH8	No

### SDI input

Recorded track	Recorded signal
CH1	CH1 input/CH2 input/CH1 + CH2 inputs
CH2	CH1 input/CH2 input/CH1 + CH2 inputs
CH3	CH3 input/CH4 input/CH3 + CH4 inputs
CH4	CH3 input/CH4 input/CH3 + CH4 inputs
CH5	No (SD)/CH5 (HD)
CH6	No (SD)/CH6 (HD)
CH7	No (SD)/CH7 (HD)
CH8	No (SD)/CH8 (HD)

# For Long and Trouble-Free Operation

## Condensation

Condensation occurs due to the same principle involved when droplets of water form on a window pane of a heated room. It occurs when this unit or a card is moved between places where the temperature or humidity varies greatly or when, for instance:

- It is moved to a very humid place full of steam or a room immediately after it has been heated up.
- It is suddenly moved from a cold location to a hot or humid location.
- When moving the unit to locations such as these, leave it standing for about 10 minutes rather than switching on the power immediately.

## Maintenance

- Before starting any maintenance work, switch the power to off and, holding the plug, unplug the cord from the socket.
- Use a soft cloth to clean the outside of this unit.
- For stubborn dirt or stains, wipe the unit with a cloth that has been lightly dampened in well-diluted kitchen detergent and wrung out thoroughly. After wiping off the dirt with the damp cloth, finish it off with a dry cloth.

---

◆ **NOTE:**

- Do not use alcohol, benzene, thinner or any other solvents as they may discolor or damage the coating of the unit.



## WARNING information display

- A warning message is displayed whenever a warning occurs.  
When no warnings have been detected, "NO WARNING" is displayed.
- When multiple warnings occur, turn the search dial to check the descriptions of each warning.  
If "T&S&M" is selected in setup menu No. 006 (DISPLAY SEL), a message appears in the mode display whenever a warning or error occurs. When multiple events occur, the event with the highest priority is displayed.

Priority	Monitor display	Description	Deck operation	Counter display
1	CANNOT A.DUB	Displayed when audio voice-over cannot be recorded on a P2 card. [Meaning] • An attempt was made to record on a card that could not be used. • An attempt was made to record when no card was inserted	STOP	CANTADUB
2	PLEASE SAVE PLAYLIST	Displayed when A. DUB is started without saving the play list.	STOP	CANTADUB
3	WRITE PROTECTED	Appears when a voice-over recording is attempted on a write-protected P2 card.	STOP	CANTADUB
4	LACK OF REC CAP.	Appears when a voice-over recording is attempted on a P2 card without enough capacity.	STOP	CANTADUB
5	MAX A.DUB EVENTS	Appears when a voice-over recording is attempted on a P2 card where the number of voice-over audio recordings has already reached the upper limit.	STOP	CANTADUB
6	CANNOT REC	Displayed when data cannot be recorded on a P2 card. [Meaning] • An attempt was made to record to a write protected disk. • An attempt was made to record data on a card with no more free memory space on it. • An attempt was made to record on a card that could not be used. • Card status changed during recording. • Recording was attempted when the unit was BUSY.	STOP	CANT REC
7	CANNOT PLAY	Displayed when playback was interrupted due to a clip error or other factor. [Meaning] • An attempt was made to play a clip when no clips were present. • An attempt was made to play back a card that cannot be used • The card could not be played back or playback stopped for some other reason • Playback was attempted when the unit was BUSY.	STOP	CANTPLAY
8	CANNOT ENTRY	Displayed when an attempt was made to register an IN, OUT or SPLIT point in a location where such points cannot be registered.	Operation continues	CANT ENT
9	CHECK A.SPLIT POINT	Displayed when an audio split setting prevents the registration of an IN, OUT and SPLIT points.	Operation continues	CANT ENT
10	OVER DUR TIME	Displayed when an attempt was made to register a duration exceeding 24 hours.	Operation continues	CANT ENT
11	CHECK RECORDER RANGE	Recorder range not large enough for registered player IN and OUT points.	Operation continues	CANT ENT
12	CHECK PLAYER RANGE	Player range not large enough for registered recorder IN and OUT points.	Operation continues	CANT ENT
13	MAX EVENTS	The number of events that can be registered on the play list has been reached.	Operation continues	CANT ENT
14	INVALID	Appears when there are already 100 text memos and no more memos can be added.	Operation continues	INVALID

Priority	Monitor display	Description	Deck operation	Counter display
15	BUSY	Displayed while clip information is being read or when clip configuration has changed. No operations can be performed while this display is on the screen. [Meaning] <ul style="list-style-type: none"> <li>• A card has been inserted or removed.</li> <li>• Updating is in progress</li> <li>• Recording post processing is in progress</li> <li>• Other causes</li> </ul>	Operation continues	BUSY
16	INT SG	Displayed for the first two seconds when the REC button is pressed to enter the EE mode and the INPUT SELECT VIDEO button or the INPUT SELECT AUDIO button is set to SG.	Operation continues	INT SG
17	NO INPUT	Displayed for the first two seconds when the REC button is pressed to enter the EE mode and the INPUT SELECT button is set to a connector with no output except for analog audio signals.	Operation continues	NO INPUT
18	TEXT MEMO	Displayed for two seconds when a text memo is added.	Operation continues	TEXT MEMO
19	MARK ON/OFF	Displayed for two seconds when a shot mark is added or deleted.	Operation continues	MARK ON / MARK OFF

## WARNING information

If “E- \* \* ” lights in the monitor display, hold down the SHIFT button and press the MENU button to open the DIAG-MENU and read the warning information.

Priority	Display		Description	Deck operation
	No	Character code		
1	95	INVALID EMBEDDED TC	Displayed while synching recorded video frames to the time code of a signal input to the HD SDI connector when that time code is not advancing at 1× normal speed. (When “SLTC” is selected in menu No. 032 REC REF.)	Operation continues
2	92	1394 INITIAL ERROR	Displayed when the 1394 interface connection is irregular.	*4
3	91	COPY PROTECTED	Displayed when DV format recording is available and the copy guard signal input via the 1394 interface is in the copy inhibit mode.	Recording is disabled
4	90	NOT 1× 100M SIG	Displayed when a signal input from the 1394 interface is not a DVCPRO HD (100 Mbps) 1× normal speed transfer signal.	Recording is disabled
5	04	UNKNOWN SIG	Displayed when a signal input from the 1394 interface is not a DVCPRO or DV format signal.	Recording is disabled
6	15	NOT 1× DV SIG	Displayed when a signal input from the 1394 interface is not a DV (25 Mbps) 1× normal speed transfer signal.	Recording is disabled
7	11	NOT 1× 25M SIG	Displayed when a signal input from the 1394 interface is not a DVCPRO (25 Mbps) 1× normal speed transfer signal.	Recording is disabled
8	12	NOT 1× 50M SIG	Displayed when a signal input from the 1394 interface is not a DVCPRO50 (50 Mbps) 1× normal speed transfer signal.	Recording is disabled
9	14	NO MATCH SIG	Displayed when signal input via the 1394 interface differs from the system format set on this unit.	Recording is disabled
10	16	INVALID VIDEO SIG	Displayed when the compressed video data of a signal input from the 1394 interface is irregular.	Operation continues *1 Editing is disabled
11	17	INVALID AUDIO SIG	Displayed when the audio data of a signal input from the 1394 interface is irregular.	Operation continues *2 Editing is disabled
12	18	INVALID TC SIG	Displayed when the time code data of a signal input from the 1394 interface is irregular.	Operation continues *3 Editing is disabled



Priority	Display		Description	Deck operation
	No	Character code		
13	26	CARD ERROR<*****>	Displayed when data was corrupted due to a P2 card error during recording. This error is displayed after recording ends and until the start of the next operation. This error is not displayed during playback. (* indicates the slot number where the error occurred.) Replace the P2 card in the slot where the error occurred.	STOP
14	21	REC WARNING	Displayed when a video or audio error occurs during recording. To continue operation, turn the power off and then back on again.	STOP
15	50	BATTERY EMPTY	Displayed when a drop in the backup battery voltage for the internal clock is detected at power on. Replace the internal battery. *5	Operation continues
16	70	DIR NG CARD<123456>	Directory structure does not comply with the P2 card standard. Make a quick backup of card data and format the card.	Operation continues
17	71	RUNDOWN CARD<123456>	The P2 card has been rewritten the maximum number of times. You are recommended to replace the card with a new card.	Operation continues
18	10	FAN STOP	Displayed when the fan motor stops.	Operation continues

◆ **NOTE:**

\*1 This warning appears only during recording.

Then the video recording goes black and the audio signal is muted.

\*2 This warning appears only during recording. Then the audio is recorded mute.

\*3 This warning appears only during recording. The internally generated time code is recorded.

\*4 This warning appears at any time. This error disables input to the digital video interface.

\*5 "E-50" appears when the backup battery is depleted. Consult your supplier for information on a store that can provide you with a new battery (CR2032 or the equivalent). Be sure to use setup menu No. 069 (CLOCK SET) to set the clock after battery replacement.

The following warning messages appear when an incorrect operation is attempted in the thumbnail play list screen.

Item	Message	Description	Measure
Thumbnails	CANNOT ACCESS!	Data cannot be accessed because it is corrupted or for other reasons.	Restore media and clips to normal state before access.
	WRITE PROTECTED!	The P2 or SD card is write protected.	Insert write-enabled media.
	CARD FULL!	The P2 or SD card is full.	Insert media with sufficient capacity.
	NO CARD!	No P2 or SD card is inserted.	Insert compatible media.
	CANNOT DELETE!	Contents version mismatch prevents deletion.	Match devices and contents version.
	UNKNOWN CONTENTS FORMAT!	Warning displayed to indicate contents version mismatch.	Match devices and contents version.
	CANNOT FORMAT!	P2 card problem prevents formatting.	Check P2 card.
	CANNOT REPAIR!	Selected content cannot be repaired.	Check selected content.
	CANNOT RE-CONNECT!	A clip that does not span multiple cannot be reconnected.	Check selected content.
	NO INPUT!	No data is input.	Set after making input.
	INVALID VALUE!	Entered data was invalid.	Enter data in a valid range.
	UNKNOWN DATA!	The metadata character code is invalid.	Use UTF-8 for the metadata character code. Use the viewer to enter correct characters.
	CANNOT REPAIR IN SELECTION!	Some of the selected clip could not be repaired.	
	NO SD CARD!	No SD card is inserted.	Insert an SD card.
	NO COPY TO SAME CARD!	A clip cannot be copied to the card storing the original clip.	Copy the selected clip to a card that does not contain the original clip.
SAME CLIP IS SELECTED!	The selected clips contain multiple copies of the same clip (duplicated using COPY).	Multiple copies of the same clip (duplicated using COPY) cannot be simultaneously copied. Deselect all identical copies from the selected clips.	

Item	Message	Description	Measure
Thumbnails	USER CLIP NAME MODIFIED!	Characters in the clip name had to be deleted in adding the counter value.	The user clip name plus the counter value can only contain up to 100 bytes. Characters in the clip name are automatically deleted when the total exceeds 100 bytes.
	TOO MANY CLIPS!	Too many clips are selected.	Reduce the number of selected clips.
	LACK OF REC CAPACITY!	There is not enough recording capacity left on the card.	Insert a card with sufficient recording capacity.
	CANNOT CHANGE!	A thumbnail containing a grayed out text memo that cannot be generated is not available for editing.	Edit settings or content to enable thumbnail display.
	NOT SELECTED!	An attempt was made to delete an unselected clip.	Select the clip you want to delete.
	MISSING CLIP!	All cards that contain the clip must be inserted to allow attachment of markers.	Insert all cards that contain the clip.
HDD	HDD CAPACITY FULL!	Not enough space left on the hard disk.	There is not enough space on the connected hard disk. Use a new hard disk or formatted hard disk.
	TOO MANY PARTITIONS!	There are too many partitions.	Hard disks can handle up to 15 partitions. Use a new hard disk or formatted hard disk.
	HDD DISCONNECTED!	The unit is not connected to a hard disk.	Reconnect the USB cable. If the hard disk does not operate normally, turn it off and turn it back on again.
	CANNOT FORMAT!	The hard disk cannot be initialized.	Connect another hard disk drive.
	TOO MANY TARGETS!	Multiple devices are connected.	Disconnect devices, turn off the unit and turn it back on again.
	UNKNOWN DEVICE CONNECTED!	The connected DVD drive is not compatible.	Disconnect devices, turn off the unit and turn it back on again.
	CANNOT ACCESS TARGET!	An error occurred during hard disk access.	Check hard disk status and connection.
	CANNOT RECOGNIZE HDD!	The destination target cannot be properly recognized.	Reboot the hard disk or connect a different hard disk.
	CANNOT ACCESS CARD!	An error occurred during P2 card access.	Check P2 card.
	MISMATCH COMPONENT!	Copying cannot be made because the destination card is in the wrong format.	Use a P2 card with appropriate capacity.
	P2 CARD IS UNFORMATTED!	The P2 card is not formatted.	Use a formatted P2 card.
	CARD IS EMPTY! CANNOT COPY!	The P2 selected for copying is empty.	Copying is not performed since the card is empty.
	VERIFICATION FAILED!	The compare check after copying failed.	Copy the data again.
	PLEASE FORMAT P2 CARD!	This warning indicates that data could not be imported from a hard disk to a P2 card because the P2 card contained recorded data.	You cannot copy to a P2 card that contains data. Format the card on a P2 device and copy again.
On-screen keyboard	CANNOT CHANGE!	An attempt was made to change PERSON when no text memo had been entered.	First enter a text memo.
	CANNOT SET! INVALID VALUE!	The entered value is invalid.	Enter a valid value.
Play list	NO FILE!	The specified file does not exist.	Use SAVE AS to save or insert a normally operating card.
	READ ONLY PLAYLIST VERSION!	The play list file is opened as read only because it is in a different version.	Play lists created on the AJ-SPD850 can only be opened as read only files. To edit such files on this unit save them out.
	CANNOT FIND CLIP!	Specified clip could not be found.	Insert the card with the clip.
	INCLUDE MULTI FORMAT!	The files are not in the same format.	Play list files in different formats cannot be loaded.
	READ ONLY 100 EVENTS!	The play list file exceeds the upper limit on events.	The upper limit on events is 100 events. Files are opened as read only.

Item	Message	Description	Measure
Play list	DIFFERENT PLAYLIST VERSION!	The play list contains files in different versions.	Play list files in a different version cannot be imported.
	INCLUDE ILLEGAL EVENT!	The play list contains illegal events.	Repair or delete as necessary.
	WRITE PROTECTED!	The specified card is write protected.	Insert write-enabled media.
	NO SPACE!	There is not enough space on the card.	
	ILLEGAL FILE!	The file selected for importing is in an unknown format.	Use clips in a matching format.
	DIFFERENT FORMAT!	The play list being edited and the event and clip selected for importing are in a different edit format (codec or frame rate).	The play list being edited and the event and clip selected for importing are in a different edit format (codec or frame rate).
	NUMBER OF FILE LIMITATION!	The number of play list files has reached the upper limit.	One card can store up to 999 play list files. Delete files no longer needed or use a new card.
	NUMBER OF EVENT LIMITATION!	The number of events has reached the upper limit.	The upper limit is 100 events. Operate within this limit.
	NUMBER OF EXTRA EVENT LIMITATION!	The number of EXTRA audio events has reached the upper limit.	The upper limit for EXTRA audio events is 100 events. Operate within this limit.
	CANNOT OPERATE AT A.DUB EVENT!	This operation is not available in an EXTRA audio segment.	An illegal operation was attempted in an EXTRA audio segment. Perform the operation elsewhere or first delete the EXTRA audio event.
	CANNOT OPERATE AT "RED" EVENT!	Not allowed in a playback disable (marked red) event.	An illegal operation was attempted in a disabled event. Use a playback enable event or insert a card with suitable clips.
	DURATION LIMITATION	The selected process cannot be performed because play list duration exceeds 24 hours.	Delete data to reduce the duration to less than 24 hours to process.
	DIFFERENT SYSTEM FREQUENCY!	Some files have a different system frequency.	Use only files with the same system frequency.
	NOT SELECTED!	No clip is selected.	Select the clip in the thumbnail screen.
	INCLUDE COLLAPSE CLIP!	Some of the clips are abnormal.	Use normal clips only.
	CANNOT FIND SAME FORMAT!	There are no clips in a matching edit format.	Use clips that match the edit format.
	NO CARD!	The specified card does not exist.	Insert the card before attempting to process it.
	INCLUDE DIFFERENT ASPECT RATIO!	There are clips with different aspect ratios.	Aspect ratios cannot be mixed. Use only clips with the same aspect ratio.
	LACK OF REC CAPACITY!	The card selected for edit copying does not have enough capacity.	Insert a card with sufficient capacity.
	NOT AVAILABLE FORMAT!	Cannot edit data in the current format.	Install an AVC-Intra Codec board to enable editing of this format.
CANNOT OPERATE AT RECORDED EXTRA AUDIO!	Recorded EXTRA audio cannot be edited.	Delete EXTRA audio or use another event.	
DIFFERENT EXTRA AUDIO CH!	Play list files using channels that differ from the current EXTRA audio cannot be imported.	Import play list files that use the same channels as the current EXTRA audio.	

## Error information

Error		Description	Operation	Remarks
No.	Message			
E-30	TURN POWER OFF	Displayed when an error occurs in reading and writing card data. To continue operation, turn the power off and then back on again.	STOP	
E-37	COMM ERROR	Displayed when a system controller command was not complied to. To continue operation, turn the power off and then back on again.	STOP	
E-38	SYSTEM ERROR	Displayed when the fan motor stops. To continue operation, turn the power off and then back on again.	STOP	
E-39	CONFIG ERROR	Appears when an optional AVC-Intra Codec board (AJ-YBX200G) cannot be initialized. This may be caused by a board malfunction. Consult your supplier.	STOP	
E-BA	BATTERY	Appears when the input DV voltage is below the undercut voltage.	STOP	

## “HOURS METER” information display

Use the ▲/▼ buttons to move the cursor (\*) and the item at the cursor appears on the counter display.

No.	Item	Description	Counter display
Ser	*****	Displays the deck's serial number.	
H00	OPERATION	Indicates the number of hours that the unit has been on.	0H~99999H
H30	POWER ON	Indicates the number of times the power has been turned on.	0H~99999T

### ◆ NOTE:

- The HOURS METER does not appear on the counter display when an error is indicated.

## List of Shortcuts

Shortcut keys	Thumbnail GUI		Play list GUI	
	Name	Description	Name	Description
REC	---	---	FINALIZE/ RECALL	Finalizes overwrite edited unfinalized event / Turns the overwrite edited event at the cursor position into unfinalized status.
SHIFT+FF/UP	TOP	Moves to first thumbnail	TOP	Moves to first event
SHIFT+REW/DOWN	BOTTOM	Moves to last thumbnail	BOTTOM	Moves to last event
IN + GOTO	---	---	GOTO IN	Locates the IN point of event at the current location.
OUT + GOTO	---	---	GOTO OUT	Locates the OUT point of event at the current location.
SHIFT+RESET	---	---	NEW	Clears a new list
INPUT SELECT VIDEO	---	---	INPUT VIDEO	Sets and releases overwrite to video track
INPUT SELECT AUDIO	---	---	INPUT EXTRA	Sets and releases overwrite to EXTRA audio
IN+ENTRY	---	---	R IN	Registers the current playback location as a recorder IN point for overwrite editing
OUT+ENTRY	---	---	R OUT	Registers the current playback location as a recorder OUT point for overwrite editing
A DUB	---	---	COPY TO EXTRA	Copies the audio of event at current location as EXTRA audio
SHIFT+PLAY	---	---	PREVIEW/ REVIEW	Plays back the event at current location or 3 seconds prior to the overwrite area to 1 second after the area
SHIFT+ENTRY	---	---	CLIP→EVENT	Imports the selected clip as an event.
SHIFT+IN	DISP.SLOT CLIPS	Toggles between thumbnail display of each individual slot and selected clip display.	IN TRIM	Selects trimming of R IN/P IN.
SHIFT+OUT	DISP.ALL CLIP	Changes thumbnail display to all clip display.	OUT TRIM	Selects trimming of R OUT/P OUT.
SHIFT+INSERT	DELETE	Deletes all selected clips.	DELETE	Deletes all selected events.
SHIFT+SPLIT	CLIP PROPERTY	Shows properties of the clip at cursor location.	EVENT PROPERTY	Shows properties of the event at cursor location.
RESET	KB CLEAR	Clears on-screen keyboard text.	KB CLEAR	Clears on-screen keyboard text.
SHIFT+SET	MULTI SELECT	Selects multiple thumbnails.	IN/OUT CLEAR	Clears P IN/OUT and R IN/OUT points.
SHIFT+EXIT	CANCEL	Releases selected item and interrupts copying procedure.	MULTI SELECT	Selects multiple events.
			CANCEL	Releases selected item and interrupts copying procedure.

Shortcut keys	Thumbnail off and playback from thumbnail		Play list event/INSERT registration	
	Name	Description	Name	Description
IN+OUT	---	---	DURATION	Shows duration between IN and OUT points
IN+RESET	IN POINT RESET	Clears IN points	IN POINT RESET	Clears IN points
OUT+RESET	OUT POINT RESET	Clears OUT points	OUT POINT RESET	Clears OUT points
SPLIT+RESET	---	---	SPLIT POINT RESET	Clears SPLIT points

Shortcut keys	Thumbnail off and playback from thumbnail		Play list event/INSERT registration	
	Name	Description	Name	Description
IN+ENTRY	ENTRY IN POINT	Registers CUEUP point to IN button	ENTRY IN POINT	Registers event IN point
OUT+ENTRY	ENTRY OUT POINT	Registers CUEUP point to OUT button	ENTRY OUT POINT	Registers event OUT point
IN+GOTO	CUEUP TO IN POINT	Cues up to point for IN button registration	SEEK TO IN POINT	Locates the IN point
OUT+GOTO	GUEUP TO OUT POINT	Cues up to point for OUT button registration	SEEK TO OUT POINT	Locates the OUT point

Shortcut keys	Thumbnail On/Off	
	Name	Description
SHIFT+ +	SLOT SELECT(+)	Moves to recording slot in forward direction.
SHIFT+ -	SLOT SELECT(-)	Moves to recording slot in reverse direction.

Shortcut keys	Name	Description
TRIM +/-	File name display	
	PAGE JUMP	Jumps/returns to page
	Hard disk EXPLORE display	
	PARTITION JUMP	Jump/return to partition
	Play list display	
	TL ZOOM	Zoom in and zoom out the timeline
	R IN/OUT, P IN/OUT trim selected	
	TRIM	Trims each registered point

Shortcut keys	On-screen keyboard operation
	Description
DELETE	BACKSPACE
GOTO	CAPS LOCK
ENTRY	OK
EXIT	EXIT
SHIFT+REW	Moves to beginning of text.
-	Moves 1 character to the left
+	Moves 1 character to the right
SHIFT+FF	Moves to end of text.
RESET	Deletes al text

# Updating the Firmware in This Unit

Visit the web site listed below and go to P2 support desk page for the latest information on firmware.

English: <https://eww.pavc.panasonic.co.jp/pro-av/>

Before updating the firmware, check firmware version of the unit in the [PROPERTY-SYSTEM INFO] in the thumbnail menu. Then access the site listed above to download the firmware if necessary. Place the downloaded file on an SD memory card and load the firmware into this unit. For detailed information on the update procedure, visit the above site.

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## ◆ NOTE:

- This unit uses only SD memory cards that comply with the SD specifications.  
Be sure to format SD memory cards on this unit. To format an SD card on a PC, use the following software that can be downloaded from the site listed above.
- SDHC memory cards cannot be used for updating firmware.

# Handling P2 Card Recording

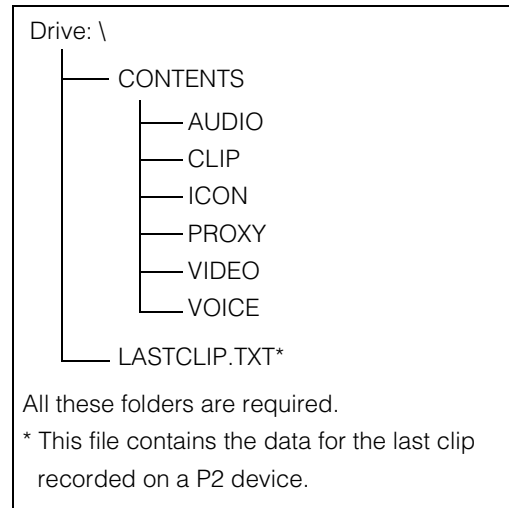
The P2 card is a semiconductor memory card designed for the DVCPRO P2 series, Panasonic's line of professional video and broadcast equipment.

- Since the DVCPRO P2 format records data as files, it is ideally suited for computer processing. Video and audio are recorded in the MXF file format while the metadata (XML) is stored in the folders with the configuration shown at right.

**If any of this data is changed or lost, it will not be recognized as P2 data or the P2 card may no longer be possible to use in a P2 device.**

- To prevent data loss in transferring P2 card data to a PC or write back PC data on a P2 card, use P2Viewer, which can be downloaded from the Web site listed below. (Supported operating systems: Windows 2000, Windows XP, Windows Vista)

<https://eww.pavc.panasonic.co.jp/pro-av/>



- Follow the steps below to use general IT tools such as Microsoft Windows Explorer or Apple Finder to transfer the data to a PC. Be sure to use P2 Viewer to write data back to a P2 card.
  - Process the CONTENTS folder and the LASTCLIP.TXT file together.  
Do not modify the data below the CONTENTS folder.  
In copying, be sure to copy both the CONTENTS folder and the LASTCLIP.TXT file together.
  - When transferring data from multiple P2 cards, create separate folders for each P2 card to prevent overwriting clips with identical names.
  - Do not delete data on a P2 card.
  - Be sure to use a P2 device or the P2 Viewer to format P2 cards.


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# Specifications

## GENERAL

**Power supply:** 100-240 V AC, 50/60 Hz, 60 W  
12 V DC, 4.3 A (full options)

 indicates safety information.

**Operating ambient temperature:**

0 °C to 40 °C (32 °F to 104 °F)

**Operating ambient humidity:**

10 % to 80 % (no condensation)

**Mass:**

6.5 kg (14.33 lb)

**Dimensions (W x H x D):**

301 mm x 120 mm x 412 mm  
(11<sup>7</sup>/<sub>8</sub> inches x 4<sup>3</sup>/<sub>4</sub> inches x 16<sup>1</sup>/<sub>4</sub> inches)  
(not including the support legs)

**Recording format:** DVCPRO HD / DVCPRO50 / DVCPRO / DV selectable

**Recording video signal:**

1080/59.94i, 720/59.94p, 480/59.94i,  
1080/50i, 720/50p, 576/50i

**Recording audio signal:**

DVCPRO HD: 48 kHz 16-bit 8 channels  
DVCPRO50: 48 kHz 16-bit 4 channels  
DVCPRO/DV: 48 kHz 16-bits  
2/4 channels selectable

**Recording times:**

Card model	Number of Cards	Recording format		
		DVCPRO (2-channel audio)	DVCPRO 50 (4-channel audio) AVC-Intra50 (8-channel audio)*	DVCPRO HD (8-channel audio) AVC-Intra100 (8-channel audio)*
AJ-P2C004 HG	1	approx. 16 minutes	approx. 8 minutes	approx. 4 minutes
	6	approx. 96 minutes	approx. 48 minutes	approx. 24 minutes
AJ-P2C008 HG	1	approx. 32 minutes	approx. 16 minutes	approx. 8 minutes
	6	approx. 192 minutes	approx. 96 minutes	approx. 48 minutes
AJ-P2C016 RG	1	approx. 64 minutes	approx. 32 minutes	approx. 16 minutes
	6	approx. 384 minutes	approx. 192 minutes	approx. 96 minutes

\* Assumes installation of an optional AVC-Intra Codec board.

◆ **NOTE:**

- All of the above times apply when single clips are recorded continuously one after the other on the P2 card.
- Depending on the number of the clips to be recorded, the recordable time may be shorter than the times given above.

**Digital slow:** -1.0x to +1.0x speed

## VIDEO

**DIGITAL VIDEO**

**Sampling frequencies:**

Y: 74.176 MHz  
P<sub>B</sub>/P<sub>R</sub>: 37.088 MHz (DVCPRO HD:1080 / 59.94i, 720 / 59.94p)  
Y: 74.25 MHz  
P<sub>B</sub>/P<sub>R</sub>: 37.125 MHz (DVCPRO HD:1080 / 50i, 720 / 50p)  
Y: 13.5 MHz  
P<sub>B</sub>/P<sub>R</sub>: 6.75 MHz (DVCPRO50)  
Y: 13.5 MHz  
P<sub>B</sub>/P<sub>R</sub>: 3.375MHz (DVCPRO)

**Quantizing:** 8 bits

**Video compression method:**

DV-Based compression (SMPTE 370M, 314M)

**Video compression rate:**

DVCPRO HD: 1/6.7  
DVCPRO50: 1/3.3  
DVCPRO: 1/5

**Bit rate:**

DVCPRO HD: 100 Mbps  
DVCPRO50: 50 Mbps  
DVCPRO: 25 Mbps

**VIDEO INPUT**

**Analog composite input:**

BNC x 1 (VIDEO IN), 1.0 V[p-p] (75 Ω)

**Reference input:** Automatic switching of black burst/HD 3 value SYNC, BNC × 1 (loop through × 1), automatic 75 Ω termination provided

**SDI input:** BNC × 1, complies with SMPTE 292M/296M/299M during HD SDI input, complies with SMPTE 259M-C/272M-A, ITU-R BT.656-4 during SD SDI input

## VIDEO OUTPUT

**Analog component (switchable):**  
BNC × 3 (Y, PB, PR)  
Y: 1.0 V[p-p], 75 Ω during HD output mode

**Analog composite output (switchable):**  
BNC × 3, video 1, video 2, video 3,  
1.0 V[p-p], 75 Ω during SD output mode

**HD SDI/SD SDI output (switchable):**  
BNC×1, complies with SMPTE 292M/296M/299M during HD serial digital output, complies with SMPTE 259M-C/272M-A, ITU-R BT.656-4 during SD serial digital output

**Monitor output:** BNC × 1, 1.0 V[p-p], 75 Ω

## AUDIO

### DIGITAL AUDIO

**Sampling frequencies:**  
48 kHz (synchronous with video)

**Quantizing:** 16 bits

**Frequency response:**  
20 Hz to 20 kHz ±1.0 dB  
(at the reference level)

**Dynamic range:** Better than 85 dB  
(1 kHz emphasis off, "A" weighted)

**Distortion:** Less than 0.1 %  
(1 kHz, emphasis off, reference level)

**Crosstalk:** Less than -80 dB  
(1 kHz, between 2 channels)

**Headroom:** 18/20 dB selectable

**De-emphasis:** T1 = 50 μs, T2 = 15 μs (auto on/off)

### AUDIO INPUT

**Analog input (CH1, CH2, CH3, CH4):**  
XLR × 4, 600 Ω/high impedance selectable  
(factory setting: high impedance)  
+4/0/-3/-20 dBu selectable  
Only CH2 input can be switched between  
LINE/MIC/MIC +48 V

**MIC:** -60 dBu

**MIC+48V:** Phantom +48V supported, -60 dBu

**SDI input:** BNC × 1, complies with SMPTE 292M/296M/299M during HD SDI input, complies with SMPTE 259M-C/272M-A (480/59.94i), ITU-R BT.656-4 (576/50i) during SD SDI input

### AUDIO OUTPUT

**Analog output (CH1, CH2, CH3, CH4):**  
XLR × 4, low impedance,  
+4/0/-3/-20 dBu selectable

**SDI output:** BNC × 1, complies with SMPTE 292M/296M/299M during HD SDI input, complies with SMPTE 259M-C/272M-A (480/59.94i), ITU-R BT.656-4 (576/50i) during SD SDI input

**Monitor output:** Pin jacks × 2, -8 dBV, 600 Ω

**Headphones:** Stereo mini jack (3.5 mm diameter), 8 Ω, variable level

## Other input/output

**Time code input:** BNC × 1, 0.5 V[p-p] to 8.0 V[p-p], 10 kΩ

**Time code output:** BNC × 1, 2.0 V[p-p] ±0.5 V[p-p], low impedance

**RS-422A input/output:**  
D-sub 9pin, RS-422A interface

**IEEE1394 input/output:**  
IEEE1394 6pin × 1  
400/200/100 Mbps selectable  
Complies with IEEE1394-1995  
Complies with IEC61883-Part1,Part2  
AV/C Command Set supported

**USB 2.0:** Host × 1, Device × 1

Inrush current, measured according to European standard EN55103-1: 20.5 A

Mass and dimensions are approximate values.  
Specifications are subject to change without notice.

# Menu index

## Thumbnail menu

THUMBNAIL .....	39
ALL CLIP .....	39
SAME FORMAT CLIPS .....	39
SELECTED CLIPS .....	39
MARKED CLIPS .....	39
TEXT MEMO CLIPS .....	39
SLOT CLIPS .....	39
SETUP .....	40
ALL HIDE .....	40
MARKER IND. ....	40
TEXT MEMO.IND. ....	40
WIDE IND. ....	40
PROXY IND. ....	40
DATA DISPLAY .....	40
DATE FORMAT .....	40
THUMBNAIL SIZE .....	40
PLAYBACK RESUME .....	40
THUMBNAIL INIT .....	40
OPERATION .....	46
DELETE .....	47
FORMAT .....	57, 99
REPAIR CLIP .....	48
RE-CONNECTION .....	48
COPY .....	46
EXCH. THUMBNAIL .....	41
PROPERTY .....	
CLIP PROPERTY .....	49
CARD STATUS .....	59
DEVICES .....	104
PROPERTY SETUP .....	58
META DATA .....	
LOAD .....	54
RECORD .....	55
USER CLIP NAME .....	52
INITIALIZE .....	55
PROPERTY .....	54
HDD .....	
EXPORT .....	100
EXPLORE .....	101
FORMAT (HDD) .....	99
SETUP .....	100

## Hard disk drive menu

THUMBNAIL .....	39
IMPORT .....	103

FORMAT (HDD) .....	99
CHANGE PARTITION NAME .....	101
CLIP PROPERTY .....	102

## Play list menu

FILE .....	
NEW .....	68
OPEN .....	74
APPEND .....	71
SAVE .....	78
SAVE AS .....	72
OPERATION .....	
DELETE ALL EVENT .....	77
DELETE SELECTED EVENT .....	77
APPEND SELECTED CLIP .....	69
EDIT COPY .....	95
CHANGE PLAYLIST NAME .....	72
EDIT AUDIO CH. ....	69
PROPERTY .....	
EVENT PROPERTY .....	91
CARD STATUS .....	59
SETTING .....	
REPLACE TC .....	93
STOP MODE .....	64
AUDIO CH. ....	69
INSERT MODE .....	68
INPUT TRACK .....	80
AUTO ENTRY .....	79

## Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)



This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

### For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

### Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

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